Sponge-Jet® Sponge Blasting System

Sponge-Jet Media Recycler User Manual™

Model:

70-P

Pneumatic Recycler

Sponge-Jet, Inc. (USA)
235 Heritage Avenue
Suite 2
Portsmouth, NH 03801
603-431-6435

-WARNING-

FAILURE TO FOLLOW ALL INSTRUCTIONS IN THE MANUAL AND ANY ALTERATIONS MADE TO THE EQUIPMENT FOLLOWING SHIPMENT FROM THE FACTORY WILL <u>VOID WARRANTY.</u>

DIRECT ATTACHMENT, SUCH AS WELDING OR BOLTING OF ANY ADDITIONAL CHUTES OR HOPPERS, ETC., TO VIBRATING EQUIPMENT OTHER THAN THOSE SUPPLIED BY MIDWESTERN WILL AUTOMATICALLY <u>VOID WARRANTY.</u>

ANY CONNECTION MADE TO UNIT <u>MUST BE FLEXIBLE.</u>

BEFORE STARTING THE UNIT THE OPERATOR MUST BE CERTAIN THE UNIT IS FREE TO FOLLOW THE MOVEMENT PRODUCED BY THE VIBRATING EQUIPMENT.

IN GENERAL, THE FEEDING AND DISCHARGE CONNECTION MUST HAVE SUFFICIENT CLEARANCE TO PREVENT ANY CONTACT.

MAN00210

-WARNING-

BEFORE STARTING THE UNIT:

THE BASE MUST BE SECURED TO THE FLOOR OR ADEQUATE SUPPORT STUCTURE.

THE FRAMES MUST BE ATTACHED TO THE TABLE.

THE SHIPPING LUGS MUST BE REMOVED.

ALL GUARDS & SERVICE DOORS MUST BE IN PLACE.

MAN00265

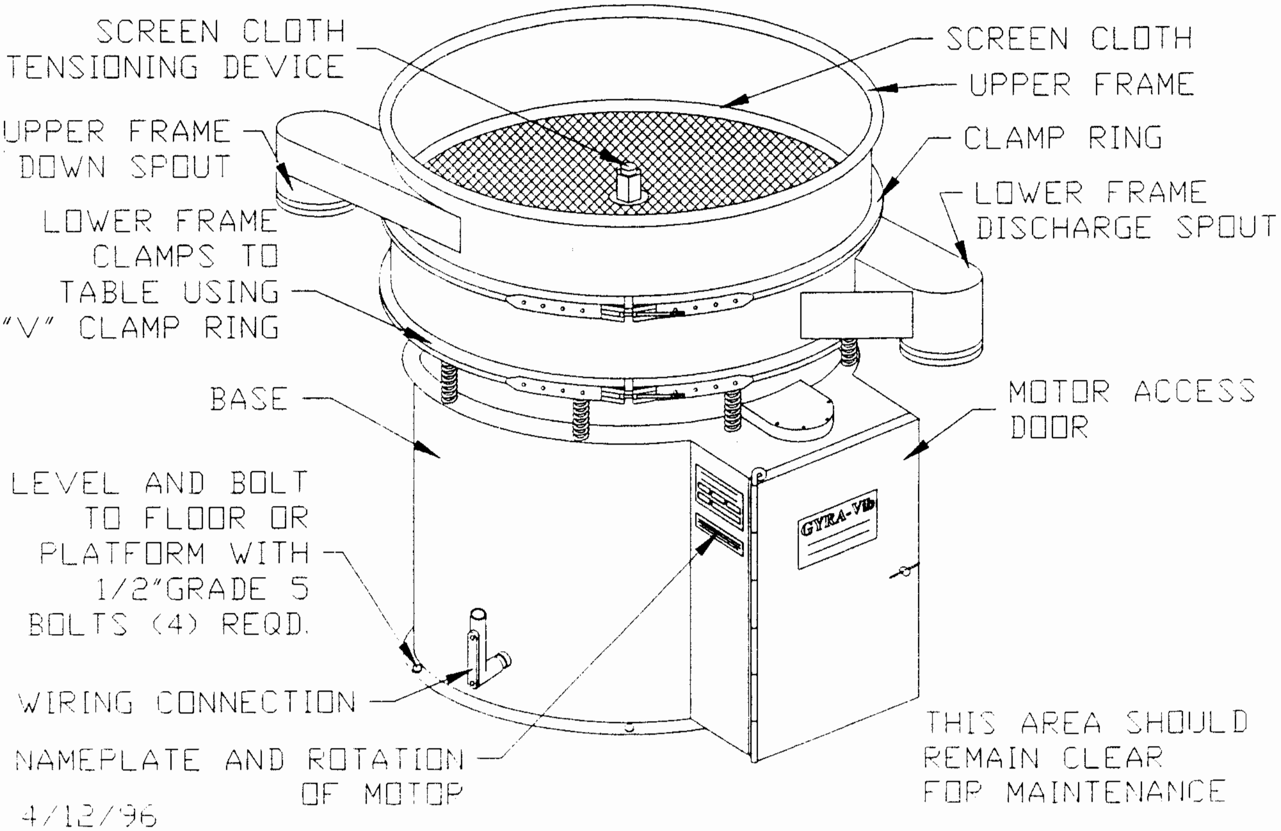
Section

INSTALLATION AND STARTUP FOR ME30

NOTE: IN ORDER TO ASSIST IN THE PROPER INSTALLATION AND OPERATION OF THIS SEPARATOR, MIDWESTERN INDUSTRIES SHOULD BE CONTACTED TO SCHEDULE A MIDWESTERN REPRESENTATIVE TO BE PRESENT AT YOUR FACILITY AT THE TIME OF STARTUP.

THE FOLLOWING GUIDE LINES SHOULD BE USED IN SETTING UP THE SEPARATOR FOR OPERATION:

1. PROVIDE A SUBSTANTIAL FOUNDATION SO UNWANTED VIBRATIONS ARE NOT TRANSMITTED INTO THE SCREEN BASE. (SECONDARY HARMONIC VIBRATIONS ARE HARMFUL AS THEY SUPER-IMPOSE UNDESIRED DIRECTIONAL FORCES INTO THE UNIT OTHER THAN WHAT IT WAS SET UP TO DO.)
2. ROTATE UNIT SO THE MOTOR ACCESS DOOR IS IN THE BEST LOCATION FOR ACCESS TO THE MOTOR FOR INSPECTION AND WEIGHT SETTINGS.
3. FOR LOCATION OF THE LOWER DISCHARGE SPOUT, REMOVE CLAMP RING FROM THE LOWER FRAME AND ROTATE FOR DISCHARGE SPOUT ALIGNMENT. REPLACE CLAMP RING AND RETIGHTEN.
4. IF NECESSARY, REMOVE CLAMP RING BETWEEN UPPER AND LOWER FRAMES AND ROTATE DOWN SPOUTS TO PROPER ARRANGEMENT. REPLACE SCREEN CLOTH AND CLAMP RING. RETIGHTEN. (CHECK MAINTENANCE SECTION FOR PROPER SCREEN CLOTH TENSIONING.)
5. REMOVE SHIPPING LUGS!!!
6. CHECK MOTOR VOLTAGE, WIRING AND DIRECTION OF ROTATION. (CHECK MOTOR DATA SHEET OR MOTOR NAMEPLATE.) THE MOTOR MUST BE PROTECTED WITH MAGNETIC STARTER OR CIRCUIT BREAKER HAVING HEATERS RATED FOR MOTOR RUNNING CURRENT.



4/12/96

INTRODUCTION

MIDWESTERN'S GYRA–VIB Separators are rugged, quality built machines thoroughly refined through years of experience and hundreds of applications. There are few screening problems this versatile unit cannot handle.

Although MIDWESTERN'S Separators are basically simple and built tough, the owner/operator still plays an important role in the overall performance of the machine.

Please review this manual carefully before installing your new GYRA–VIB Separator and keep it handy for reference to adjustments, maintenance and parts replacement.

RECEIPT AND INSPECTION

Upon receiving your MIDWESTERN Separator, but before operating, please inspect the unit carefully. Check for any obvious damage. The screen cloth itself should be inspected for punctures as well.

INSTALLATION

* Provide a <u>Substantial</u> foundation for the unit. (If, after the unit has been started, there are secondary vibrations transmitting to the foundation or to the separator base, the structure should be reinforced.)

* Make certain unit is level and in a position for easy access to the motor and lubrication points.

* If the lower spacing frame spout must be moved, make sure all 1/2 inch bolts are retorqued to 80 ft.lbs.

* Upper spacing frame spouts can be rotated by removing V–clamp rings. (See Section C for screen and clamp changing.)

* <u>After</u> unit has been set into place, remove shipping lugs (Tagged Red).

* Do not permit any structure, wiring, etc. to contact the vibrating portion of the machine.

PROPOSED TYPICAL FEEDING ARRANGEMENTS

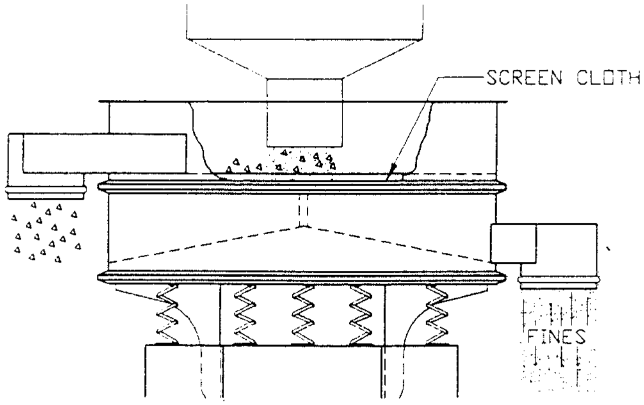


FIGURE 'A'- CONTROLLED FEED TO CENTER OF SCREEN FOR BEST RESULTS OF SCREENING DRY MATERIAL

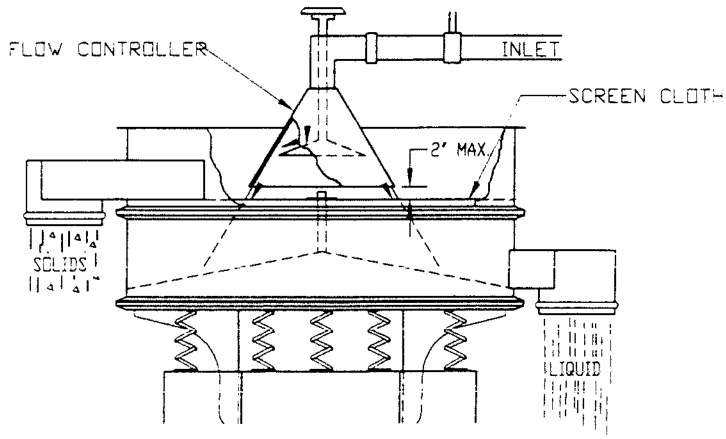


FIGURE 'B'- MIDWESTERN'S FLOW CONTROLLER USED FOR LIQUID-SOLID SEPARATION WHERE VISCOSITY IS LOW ENOUGH TO LET MATERIAL REACT TO DIVERTER CONE

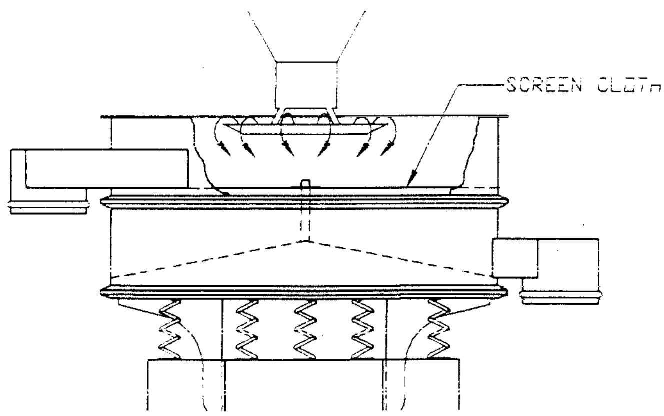


FIGURE 'C'- OVERFLOW TYPE OF ARRANGEMENT USED ON HIGH VISCOSITY AND CO-ADHESIVE LIQUID MATERIALS THAT HAVE GREATLY REDUCED FLOWABILITY CHARACTERISTICS

GYRATORY ADJUSTMENTS

The vibrating motion of all MIDWESTERN GYRA–VIB Separators is controlled by the addition or subtraction of weights to the balance cage pins. The top and bottom balance cages are round plates (much like flywheels) with the pins inserted at 20° increments.

The ME Series has the added adjustment of RPM control.

The top balance cage is known as the horizontal cage. Weights added to this produce the horizontal or flat effect of the screen. Thus, if you are screening heavy material, more weights would be added to the top cage to create the inertia necessary to convey the material outwardly. Good screening performance cannot be realized until sufficient horizontal motion is attained first.

The bottom balance cage is known as the vertical cage. Weights added to this cage impose a vertical lift on the screen which, in combination with the horizontal motion, moves the material in fashion suitable for good particle separation and discharge.

Although the weights on your Separator have been preset at the factory, this is often just a starting point for the operator's convenience. On–site fine tuning may be necessary.

Following are four weight arrangements and the patterns they are most likely to produce. These diagrams are general aids and should not be depended on as precise adjustments for your application.

Adding excessive weight (or excessive RPM–ME Series) does not promote faster or better screening. Too many poorly adjusted weights will only shorten the unit's life.

Please consult MIDWESTERN for difficult gyratory problems.

Figure 1 Top mobile weights on pins No. 1 & 2

Top fixed weights on pins No. 1,2,3, & 4

Bottom mobile weights on pins No. 2 & 3

Figure 2 Top mobile weights on pins No. 1 & 2

Top fixed weights on pins No. 1 & 2

Bottom mobile weights on pins No. 4 & 5

Figure 3 Top mobile weights on pins No. 1 & 2

Top fixed weights on pins No. 1 & 2

Bottom mobile weights on pins No. 4&5,6&7

Figure 4 Top mobile weights on pins No. 1 of 2

Bottom mobile weights on pins No. 7 & 8

MATERIAL FLOW PATTERNS

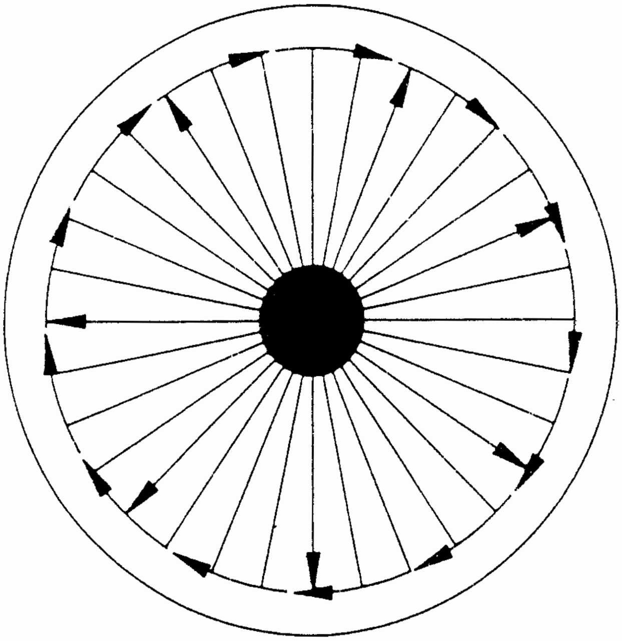


FIGURE 1

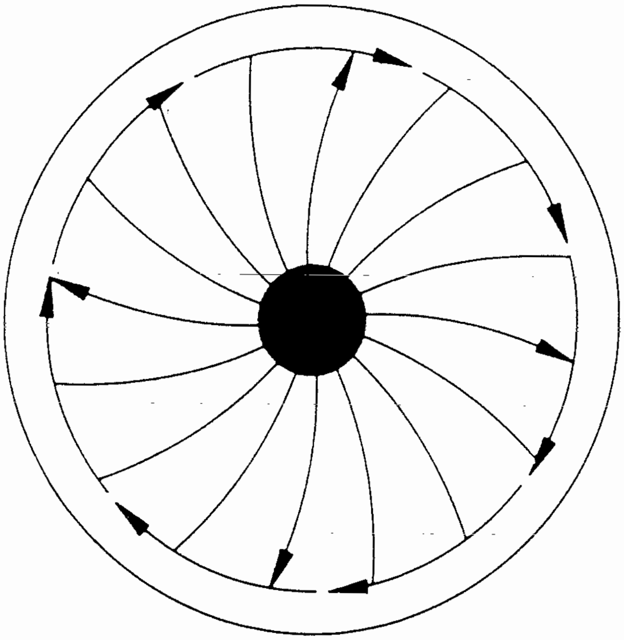


FIGURE 2

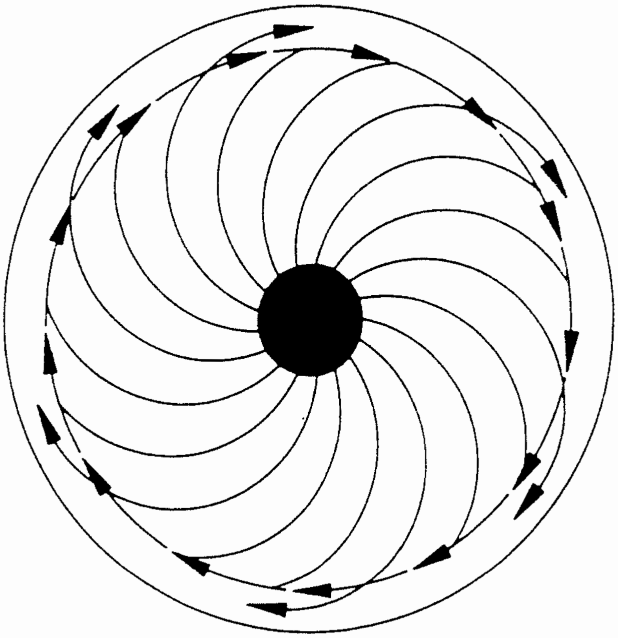


FIGURE 3

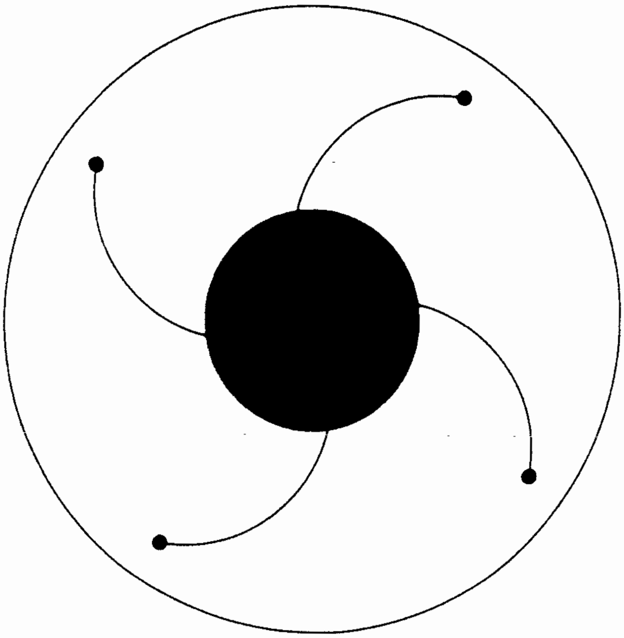
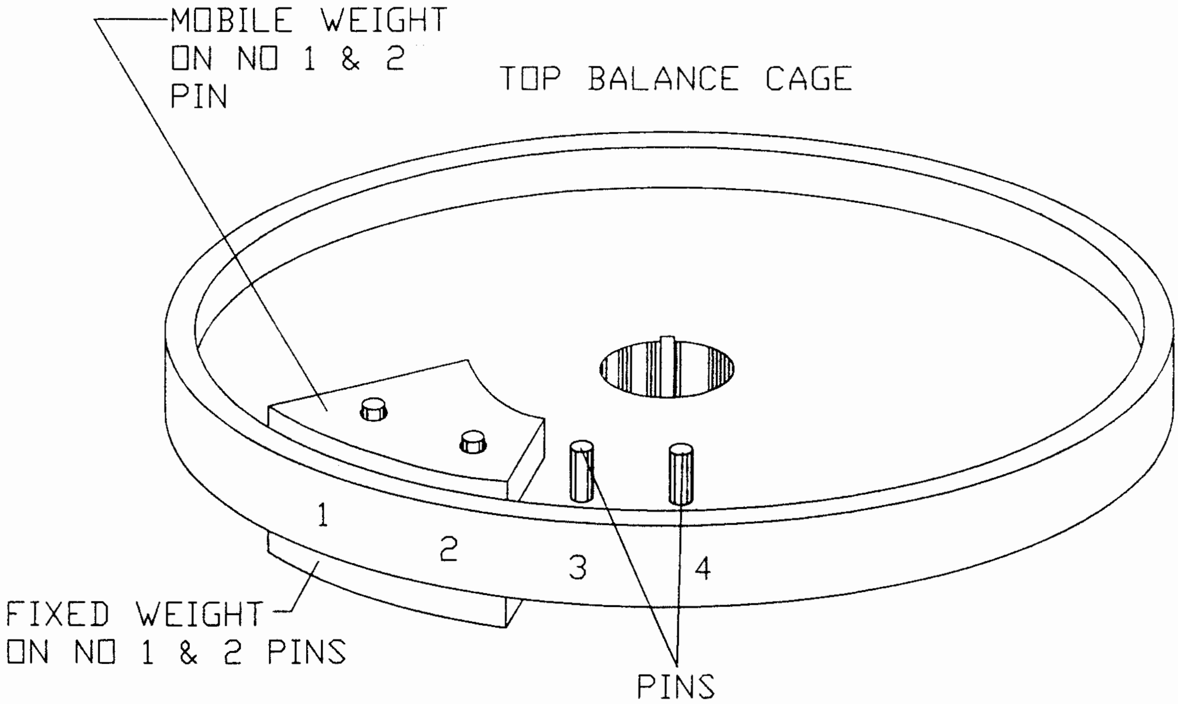
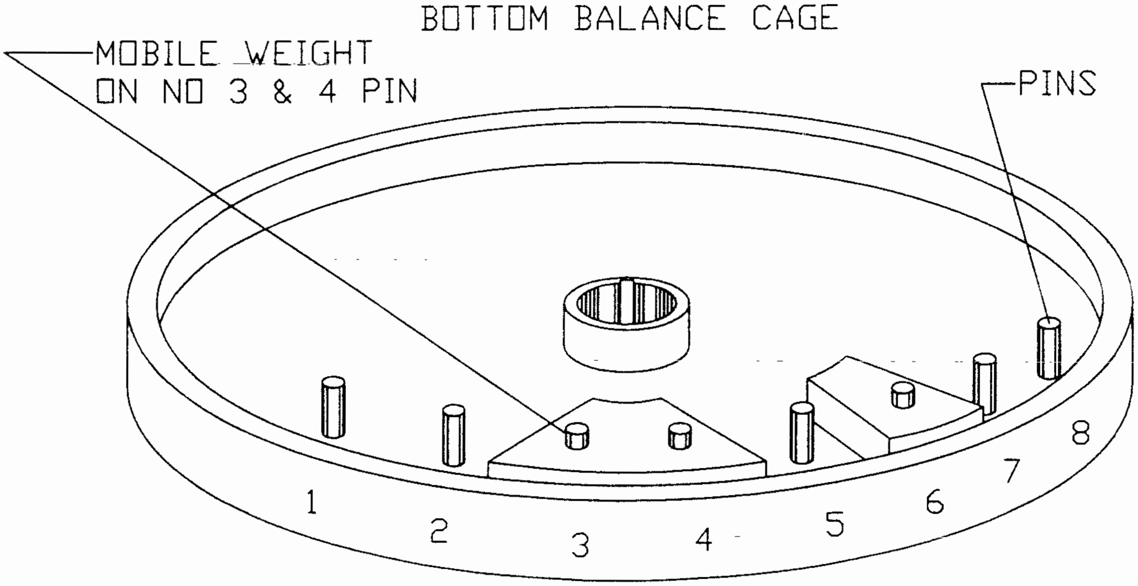


FIGURE 4

ME30 BALANCE CAGES





7/9/96

RPM ADJUSTMENT – ME SERIES ONLY

Another dimension of adjustment incorporated in the ME Series of GYRA–VIB Separators is variable balance cage RPM. Whereas the MR Series runs at a constant 1200 RPM, the ME Series can be adjusted from 950 RPM to 1450 RPM.

The lower RPM range produces greater amplitude or stroke length but lower frequency and a moderate rate of material flow. Higher RPM reduces amplitude but increases frequency and the material's rate of travel across the screen.

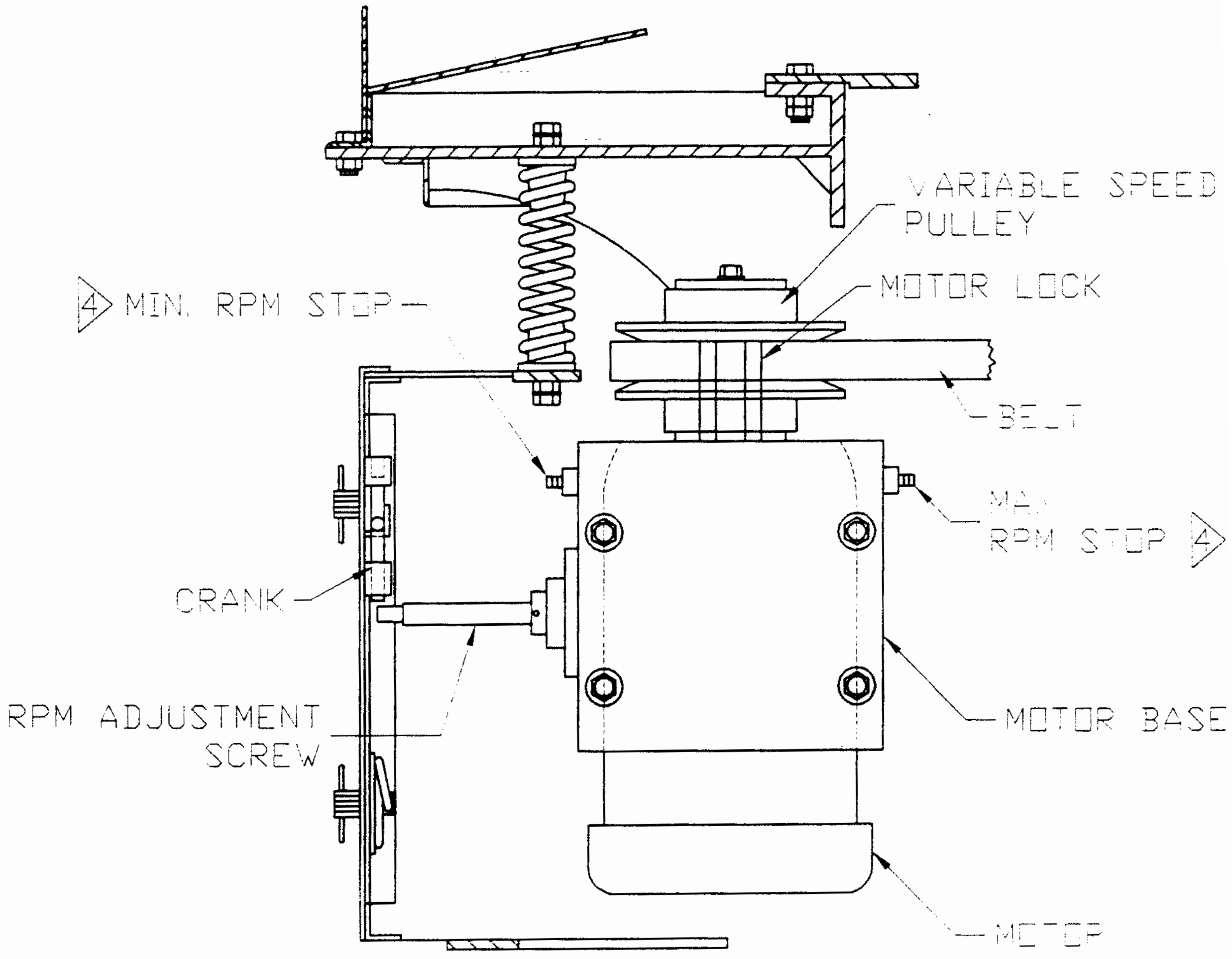
<u>TO ADJUST RPM</u> (See illustration, next page)

* Separator should be running when adjusting RPM
* Loosen RPM control lock at top of motor mount next to variable speed pulley
* With crank (supplied with unit) adjust RPM to desired setting
* Tighten RPM control lock
* One turn of the crank is approximately equal to a change of 35 RPM

TO ADJUST MOTOR RPM

1. LOOSEN MOTOR LOCK
2. ADJUST MOTOR TO DESIRED RPM
3. TIGHTEN MOTOR LOCK
4. DO NOT CHANGE THESE SETTINGS

CAUTION - MOTOR LOCK MUST BE TIGHT AT ALL TIMES WHEN MOTOR IS RUNNING.
OPERATING MACHINE WITH LOOSE MOTOR LOCK PUTS MACHINE OUT OF WARRANTY



MA100049
7/26/96

SEPARATOR MAINTENANCE

*LUBRICATION

Separator bearing lubrication is extremely critical due to heavy loading and vibration. Please read and maintain the following steps for good maintenance.

Recomended grease is Shell Alvania EP2 or equivalent.

NOTE: Blending of greases of different saponification bases is likely to result in marked deterioration of lubricity with the risk of premature bearing failure.

NOTE: For operation of any MIDWESTERN GYRA-VIB at sustained temperatures of less than 34° F., use Shell Alvania EPI, or in extreme cases, EP-RO.

Generally, smaller amounts of grease at more frequent intervals is best for any MIDWESTERN GYRA-VIB greasing schedule.

LUBRICATION (continued)

ME Series – Models ME48, ME56, ME60 and ME72 top and bottom balance cage shaft bearings:

The top and bottom bearing lube fittings are fixed to grease lines which are accessible on the outside of the torque tube left of the motor.

Add 27 grams/1,000 hours or 4 grams/month (160 hours) to each bearing. Twenty–seven grams equals 19 full pumps from an ordinary hand–held grease gun, 4 grams equals 3 pumps.

Twenty–four ounces (680 grams) required for complete repacking.

ME Series – Model ME24 top and bottom balance cage shaft bearings:

Add 6 grams/1,000 hours or 1 gram/month (160 hours). Six grams equals 4 full pumps from an ordinary hand–held grease gun, 1 gram equals 3/4 of a pump.

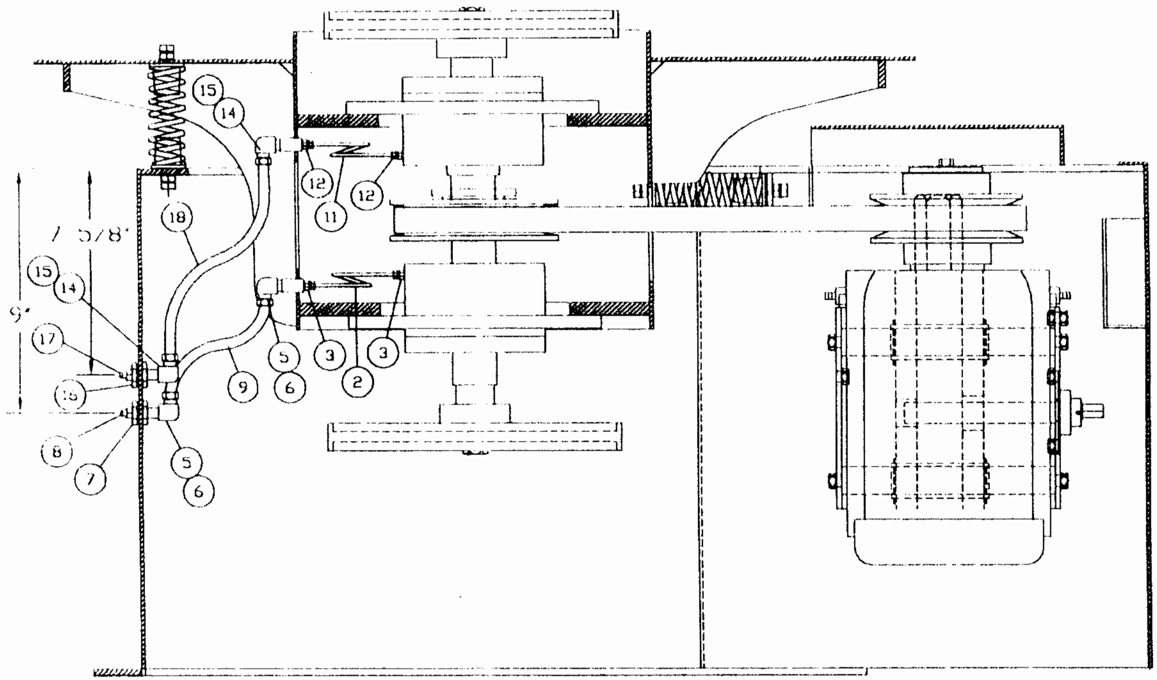
Model ME30, ME36 and Model ME40 top and bottom balance cage shaft bearings:

Add 10 grams/1,000 hours or 1.5 grams/month (160 hours). Ten grams equals 7 full pumps from an ordinary hand–held grease gun, 1.5 grams equals 1 full pump.

ME Series Motors do not require a special lubrication schedule.

TOP LINE WITH BOTH ASSEMBLES COMPLETED
AND NO GREASE IN LINES, TAKES 9 PUMPS
FROM A STANDARD HAND HELD GREASE GUN

BOTTOM LINE WITH BOTH ASSEMBLES COMPLETED
AND NO GREASE IN LINES, TAKES 7 PUMPS
FROM A STANDARD HAND HELD GREASE GUN



ITEM	REQD.	PART NO.
18	1	5155-3 PARKER 3/16" HOSE X 12"
17	1	1610-BL ZERK FITTING
16	1	207ACBH-2 BULK HEAD FITTING
15	2	63P-5 BRASS INSERT (5/16")
14	2	69SA-62 BRASS ELBOW (3/8" X 1/8")
13	1	TOP FLEXIBLE LUBE LINE ASSEMBLY (ME3051553T)
12	2	202 X 3 WEATHERHEAD
11	1	LUBE LINE X 8"
10	1	TOP LUBE LINE ASSEMBLY (ME3080)
9	1	5155-3 PARKER 3/16" HOSE X 9"
8	1	1610-BL ZERK FITTING
7	1	207ACBH-2 BULK HEAD FITTING
6	2	63P-5 BRASS INSERT (5/16")
5	2	69SA-62 BRASS ELBOW (3/8" X 1/8")
4	1	BOTTOM FLEXIBLE LUBE LINE ASSEMBLY (ME3051553B)
3	2	202 X 3 WEATHERHEAD
2	1	LUBE LINE X 8"
1	1	BOTTOM LUBE LINE ASSEMBLY (ME3080)

REVISIONS			
LTR	DATE	DESCRIPTION	BY

CUSTOMER

DRAWN BY: RAYNER
DATE: 1/18/02
CHECKED BY:
NEXT ASSY.

MIDWESTERN INDUSTRIES INC.
MASSILLON, OHIO
44648-0810 U.S.A.

TITLE: ME30 SEPARATOR LUBE LINE ASSEMBLY

DRAWING NO. MFE30060

REV

SCREEN CHANGE

Removal and installation of screens is one of the most important maintenance procedures related to the separator. The following steps should be read carefully and utilized at all times. The longevity and performances of your machine depend on them.

1. Turn off power supply to unit and insure it cannot be accidentally renewed during screen changing.

2. Disconnect all flexible discharge spout connectors and feed apparatus.

3. If machine is exceptionally dirty, cleaning the unit with water or air spray would be helpful before removing or installing screens.

4. Loosen and remove center tensioning device.

5. Loosen and remove outer "V" clamp ring.

6. Raise spacing frame off screen <u>slowly</u>. If screen is lodged in frame, bump or pry it out carefully before removing frame completely.

7. Lift off old screen.

8. Before setting new screen in place, inspect center stud for damage and see that it is tight.

9. Thoroughly clean both spacing frame flanges and straighten any bends which will contact the new screen gasket.

10. Install new screen and replace spacing frame.

11. Install "V" clamp ring and tighten equally on both sides. Clamp ring bolts should be greased. Clamp ring should be rapped moderately with a mallet or hardwood block during tensioning to insure it will seat properly.

12. Tension screen cloth center <u>after</u> clamp ring is tight. <u>Important</u>! See "SCREEN TENSIONING" page for details.

13. Replace spout connectors and feed delivery.

SCREEN TENSIONING

This is one of the most important aspects of the screen changing procedure. Insufficient screen tension causes not only poor separation and noisy operation but can destroy a screen. Although there is no cut-and-dried formula for screen tensioning in a separator, remember there must be no "whip" in the screen cloth. Many variables are involved here such as diameter of unit, mesh, wire diameter, etc. Please consult MIDWESTERN if screen tension problems persist.

With a few exceptions, MIDWESTERN'S Separators are equipped with one of several types of center tensioning devices.

(See Drawing No. MR 127A or MR 127B for illustrations.)

1. Reversible Center Locking Device (Standard)

MIDWESTERN'S center locking device can be used two ways; to tension the screen up or to tension it down. Tensioning the screen up gives it a cone shape which helps move difficult material off the screen, requiring less horizontal thrust.

Tensioning the screen down is most common. This position is predictable responsive to weight and/or RPM adjustments. Precise retention time of the material on the screen is easily achieved.

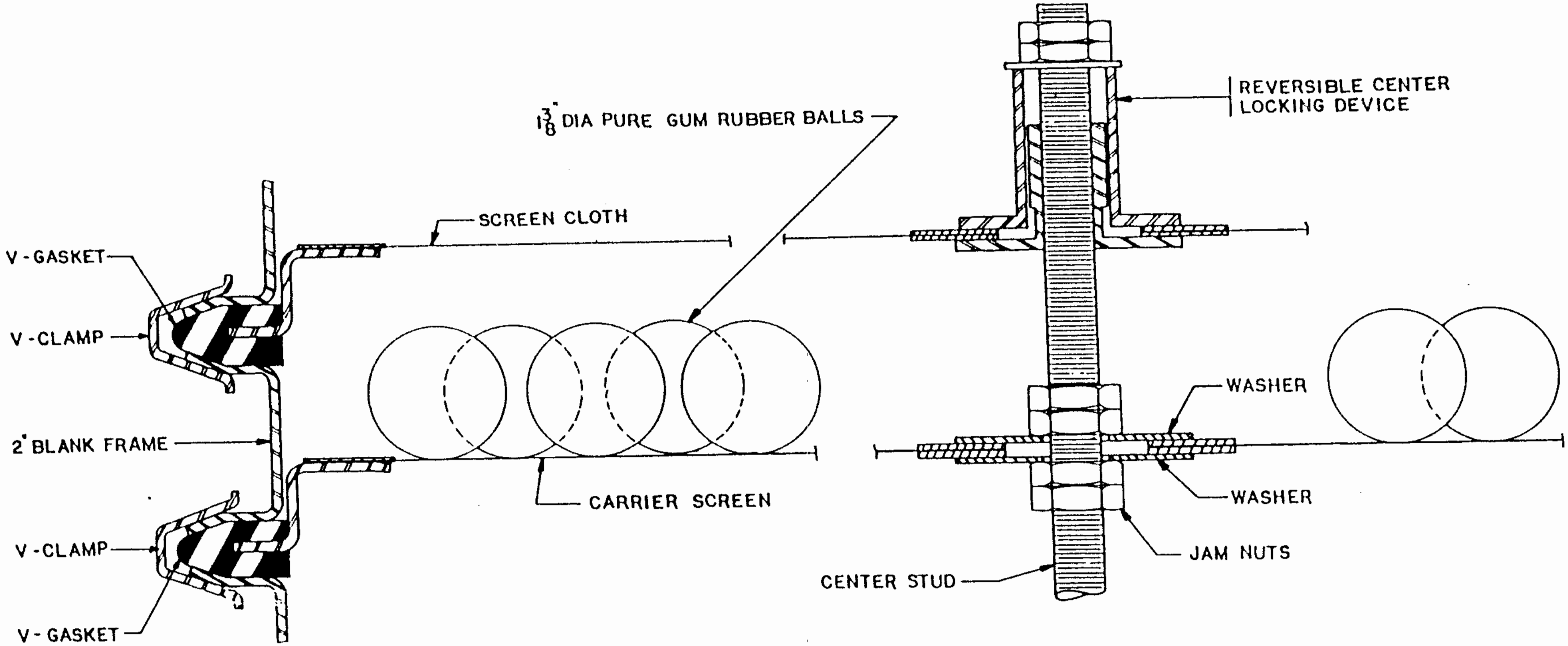
2. Reversible Center Locking Device (Long Type)

This is simply an extended version of the standard center locking device to be used in conjunction with a conical kleener tray. The screen cloth and perforated support tray are locked together as one unit.

When locking either this type or the standard type, be sure to hold the square tube portion firmly while tightening the lock nut.

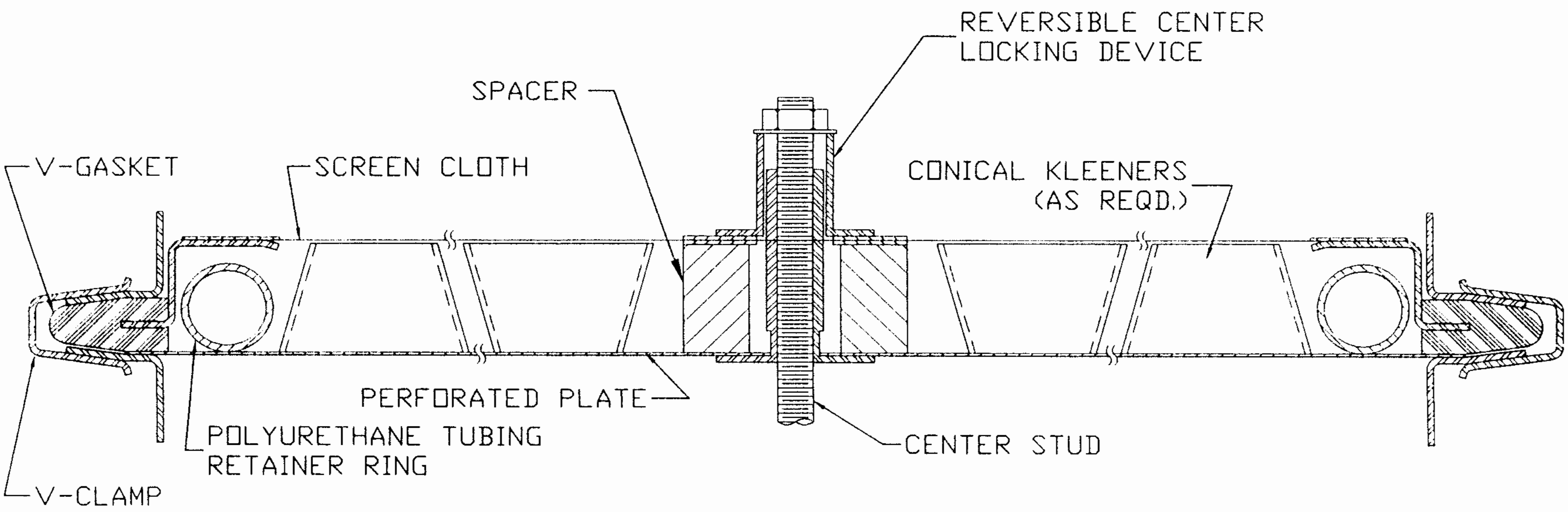
3. Spring Loaded Center

This is a fairly common configuration used in separators. Although the screen cannot be pulled up, proper tension can be maintained down. The spring will, to a point, absorb some difference as a screen stretches with use. Periodic checks should be made with this type.

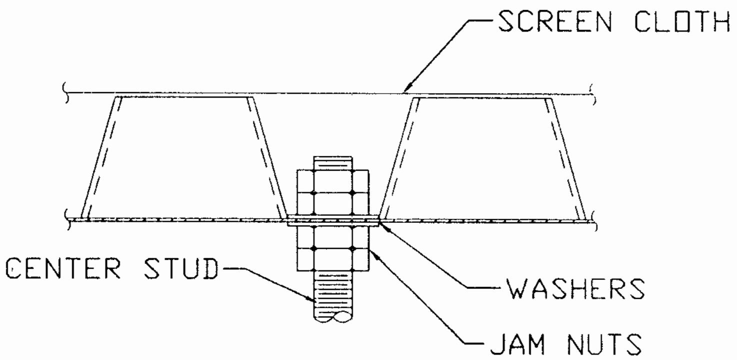


BALL TRAY INSTALLATION

MR127A
3-29-89



ME-30 KLEENER TRAY INSTALLATION

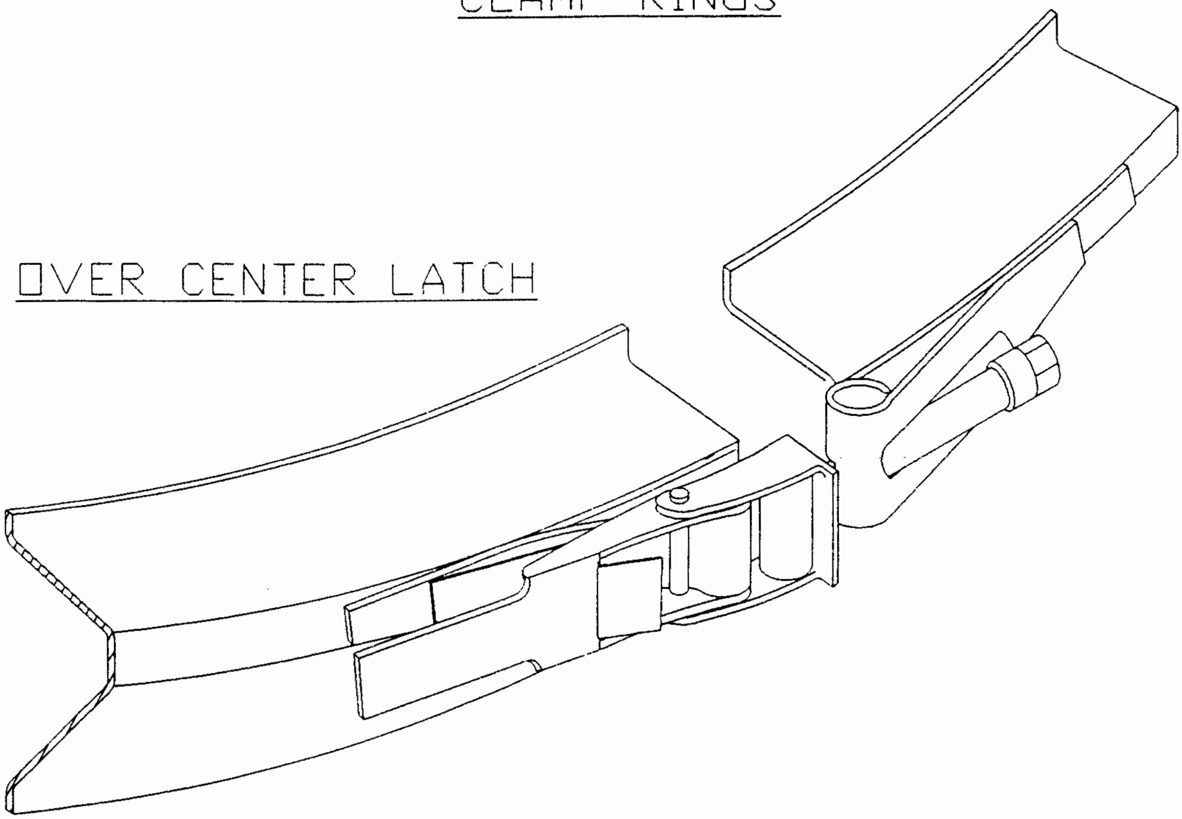


CENTERLESS SCREEN

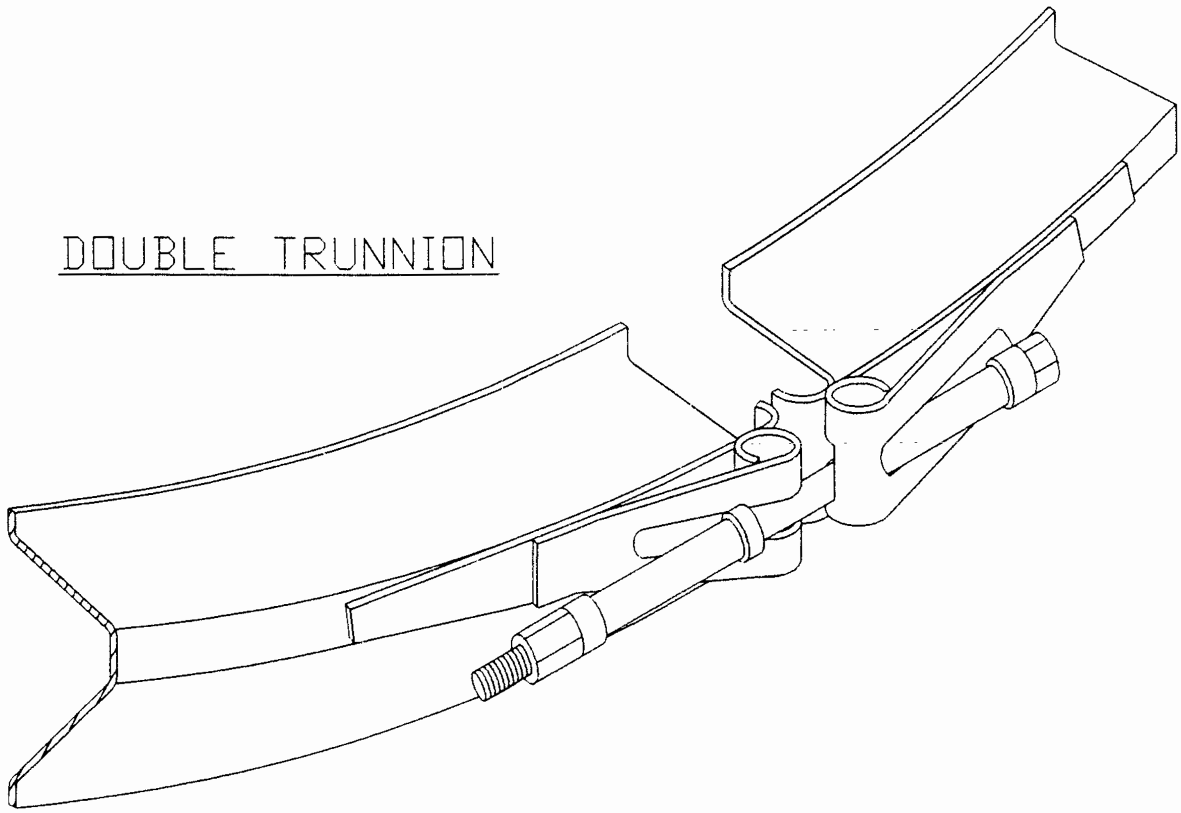
4/22/96

CLAMP RINGS

OVER CENTER LATCH



DOUBLE TRUNNION



MAN00108
6/17/97

P.O. Box 810 • Massillon, OH 44648-0810 • (216) 837-4203
Telex 983469 • FAX (216) 837-4210

MIDWESTERN INDUSTRIES, INC.

INSTALLATION & MAINTENANCE — SERIES 8800

I. INSTALLATION INSTRUCTIONS

> **WARNING: ALL OPEN BELT DRIVE SYSTEMS MUST BE ADEQUATELY GUARDED FOR PERSONAL SAFETY DURING OPERATION.**

1. **MOUNT COMPANION SHEAVE** — Slide the companion sheave on the driven shaft in a position which gives full bearing on the sheave bushing. Tighten the bushing bolts. Ensure the shaft is clean and free of burrs before installation.

2. **BOLT MOTOR TO MOTOR BASE** — Place the motor on the motor base as central as possible. The motor is to be positioned on the base so that the motor shaft is perpendicular to the direction of motion on the motor base slide. Mark motor mounting hole centers on the motor base top/slide. Drill holes and bolt the motor to the base.

3. **POSITION MOTOR/BASE SUB-ASSEMBLY ON YOUR EQUIPMENT** — Mount pulley model 8800 on the motor shaft and tighten drawbolt just enough to prevent pulley from slipping when it is turned by hand.* Turn the motor base handwheel counterclockwise until the slide is at the end of its travel, then back off approximately 1/2" . . . Now place the motor/base/drive sub-assembly in the approximate position it will take on your machinery. Place the belt over the 8800 pulley and companion sheave. (*See Figure 1*)

**See detailed collet instructions on page 3.*

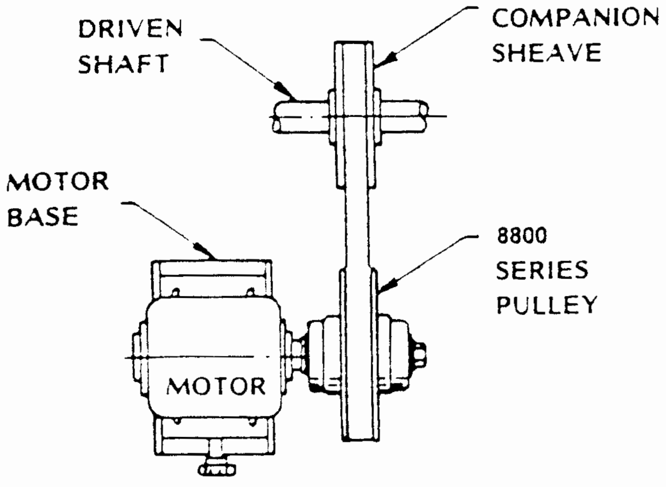


FIGURE 1

4. Move the motor/base/drive sub-assembly until the belt is under some tension and is approximately aligned with the straightedge as illustrated in Figure 2. Mark the motor base mounting holes on your equipment when you are satisfied that alignment is correct within 1/16" tolerance along both top and bottom sections of the belt. This procedure insures that the motor and driven shafts are parallel. Turn the motor base handwheel clockwise until the belt is loose, remove the belt, lift the motor/base/drive subassembly from your equipment. Drill the motor base mounting holes in your equipment. Bolt the motor/base/drive sub-assembly in position.

5. **ACCURATELY ALIGN THE BELT** — Place the belt over the 8800 pulley and companion sheave. Turn the motor base handwheel clockwise until the belt is tensioned. While rotating the 8800 pulley by hand, continue to turn the motor base handwheel until the belt is flush with the 8800 pulley outside diameter. Using a straightedge as shown in Figure 2, adjust the 8800 pulley axially on the motor shaft until equal measurements are obtained at positions A and B. Tighten all bolts securely. Tolerance for equal measurements must be within 1/32".

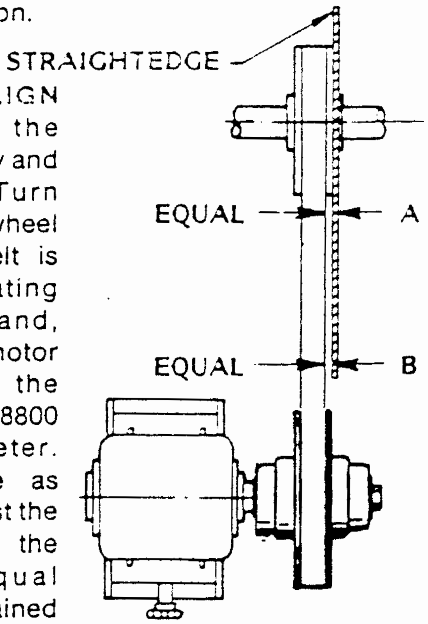


FIGURE 2

6. **RUN MOTOR AND RECHECK ALLIGNMENT** — After wiring the motor into your machinery, run the drive system for a few minutes while cycling the drive system through its speed range. Cycle the drive to its high speed position again. Stop the motor and again check alignment. If necessary, loosen the 8800 pulley and bring the equal measurements A and B to within 1/32". Tighten all bolts securely.

II. INSTALLATION INSTRUCTIONS FOR REVERSE MOUNTING
(Snag Grinding and Similar Applications)

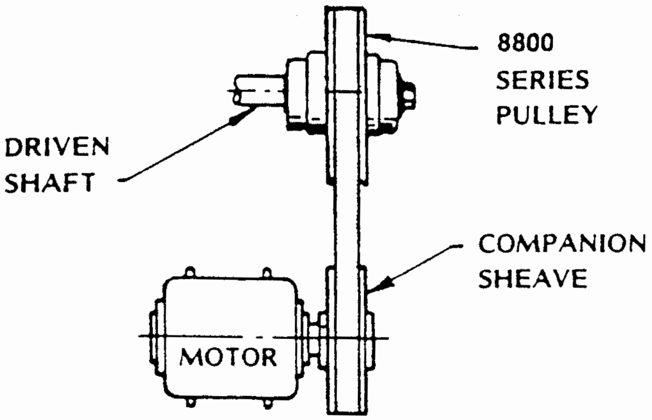


FIGURE 3

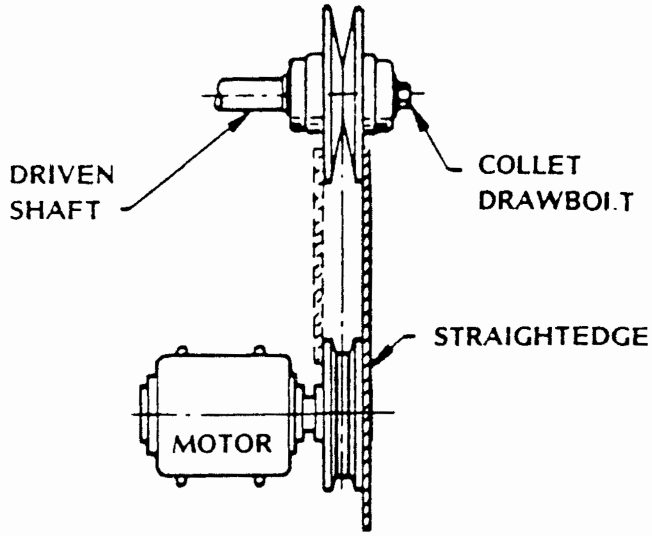


FIGURE 4

1. **MOUNT COMPANION SHEAVE** — Slide the companion sheave on the motor shaft in a position which gives full bearing on the sheave bushing. Tighten the bushing bolts. Ensure the shaft is clean and free of burrs before installation.

2. **MOUNT 8800 PULLEY** — *Mount 8800 pulley on driven shaft and line up with companion sheave using a straightedge as shown in *Figure 4*. Tighten drawbolt of collet.

* *See detailed collet instructions on next page.*

3. **BELT PLACEMENT** — Place the belt over the companion sheave and 8800 pulley. If this proves difficult, roll the belt with a twisting motion until it enters both sheaves. Now rotate the sheaves by hand to ensure the belt is seated properly.

4. **ACCURATELY ALIGN THE BELT** — Using a straightedge as shown in *Figure 5*, ensure that dimensions A and B are equal. If necessary, loosen the 8800 pulley, and move in or out until A and B are equal within 1/32". Retighten the collet drawbolt.

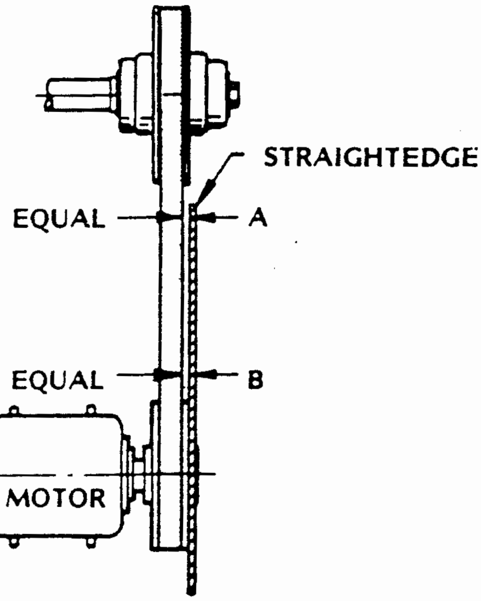


FIGURE 5

III. GENERAL DISASSEMBLY INSTRUCTIONS
For Repair or Replacing Parts on the 8800 Series

1. Using a light arbor press and parallels, exert sufficient pressure to compress the spring cartridge. Hold the pressure while removing the retaining ring. Now release the arbor press, the spring cartridge is approximately 1/8 longer than when installed. Turn the pulley over and repeat for other spring cartridge. The pulley faces can now be slid off the pulley shaft.

2. Assembly is a reversal of this procedure.

CAUTION: Attempting to remove the retaining ring without holding the spring under a press can be dangerous and may cause bodily harm.

III. DISASSEMBLY CONTINUED

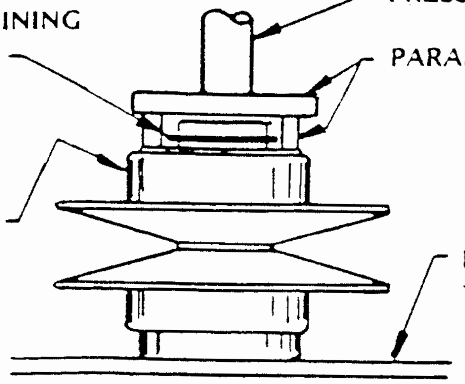


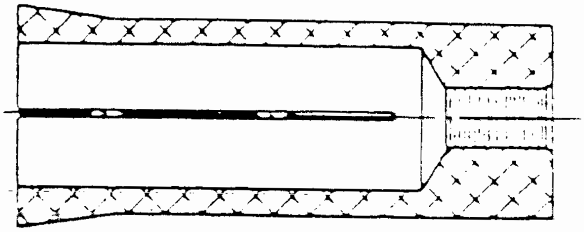
FIGURE 6

CAUTION: DO NOT REMOVE LARGE RETAINING RING FROM THE POSITIVE DRIVE CARTRIDGE.

NOTE: Do not place any metal tool on the faces of the pulley. If the pulley faces are to be pryed apart, use a block of wood or an old belt. Do not use prybar or screwdriver tips.

IV. INTERCHANGEABLE COLLET INSTRUCTIONS

NOTE: When pulley faces are completely open they force the spring cartridge a full 3/8" beyond the end of the pulley. (See diagram next page.)
Taking this into consideration mount pulley on shaft for maximum bore depth possible.



COLLET

A. INSTALLATION:

1. Prepare shaft on which pulley is to be mounted by filing off all burrs and remove key from the shaft. (**NOTE:** *When properly applied, this pulley does not require a key to drive the system, except on the 40 hp and 50 hp unit.)*
2. Loosen draw-bolt and slide the pulley onto the shaft. (**NOTE:** *To insure easy removal, slide the pulley onto shaft as far as possible and then slide it back about 1/8 inch.)*
3. After checking that the lock-washer is fitted onto the draw-bolt, fit a suitable wrench onto the draw-bolt and tighten securely. (**NOTE:** *Since the bolts are prestressed, it is impossible to strip the threads out of the IC Collet.)*

TORQUE — WRENCH SETTINGS ARE AS SHOWN:

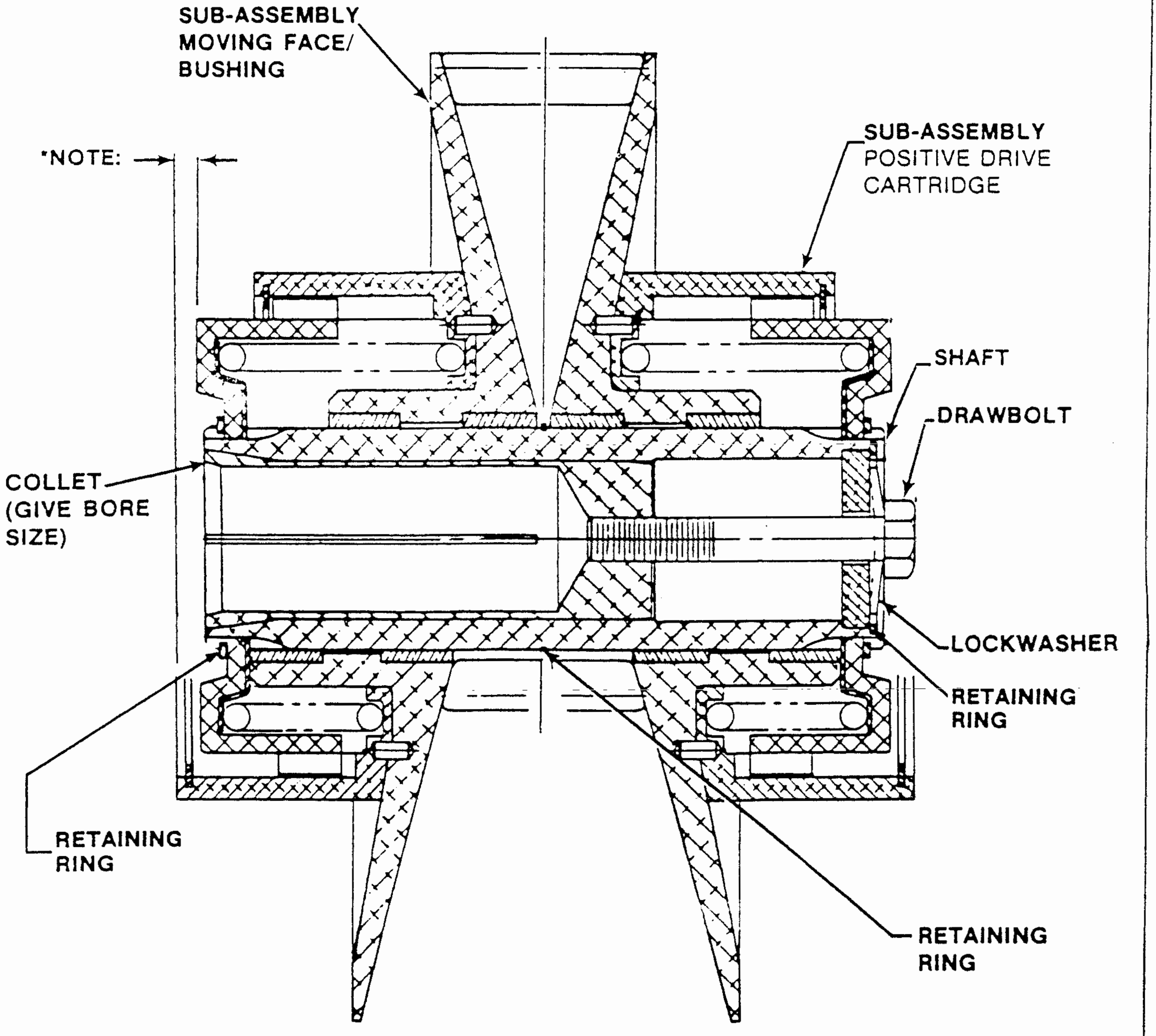
PULLEY	TORQUE In/lbs.	COLLECT BORE SIZE	PULLEY	TORQUE In/lbs.	COLLECT BORE SIZE
8816	175	1/2 to 7/8"	8821	875	1-3/8 to 1-7/8"
8827	175	1/2 to 1-1/8"	8822	875	1-3/8 to 1-7/8"
8859	300	3/4 to 1-3/8"	8823	875	1-3/8 to 1-7/8"
8810	487	1" to 1-5/8"	8833	1000	1-3/8 to 1-7/8"
8811	1000	1-3/8 to 1-7/8"	8843	1200	1-5/8 to 2-1/8"
8813	875	1-3/8 to 1-7/8"	8853	1200	1-5/8 to 2-1/8"
FOR BORE SIZES NOT LISTED, CONSULT THE FACTORY.					

4. If torque wrench is not available, an alternate procedure is to tighten the drawbolt until the belleville spring washer is just flat. This will be approximately the correct torque.

B. REMOVAL:

1. Loosen the draw-bolt until it protrudes from the pulley shaft about 1/4 inch.
2. Using a hammer, firmly tap the head of the draw-bolt. Repeat if necessary until the pulley becomes obviously loose on the shaft.
3. Slide the pulley off the shaft.
4. If for any reason this method should fail to loosen the collet, the threaded hole in the end plate, (where the lockbolt passes through) can be used in conjunction with a long bolt (or piece of all-thread rod) to jack the collet loose.
5. Before reinstalling the drive, inspect the IC Collet and draw-bolt for any signs of burrs or other damage.

WHEN ORDERING REPLACEMENT PARTS:
Give *pulley model number, spec. no. (if any)* and *name of part* desired.



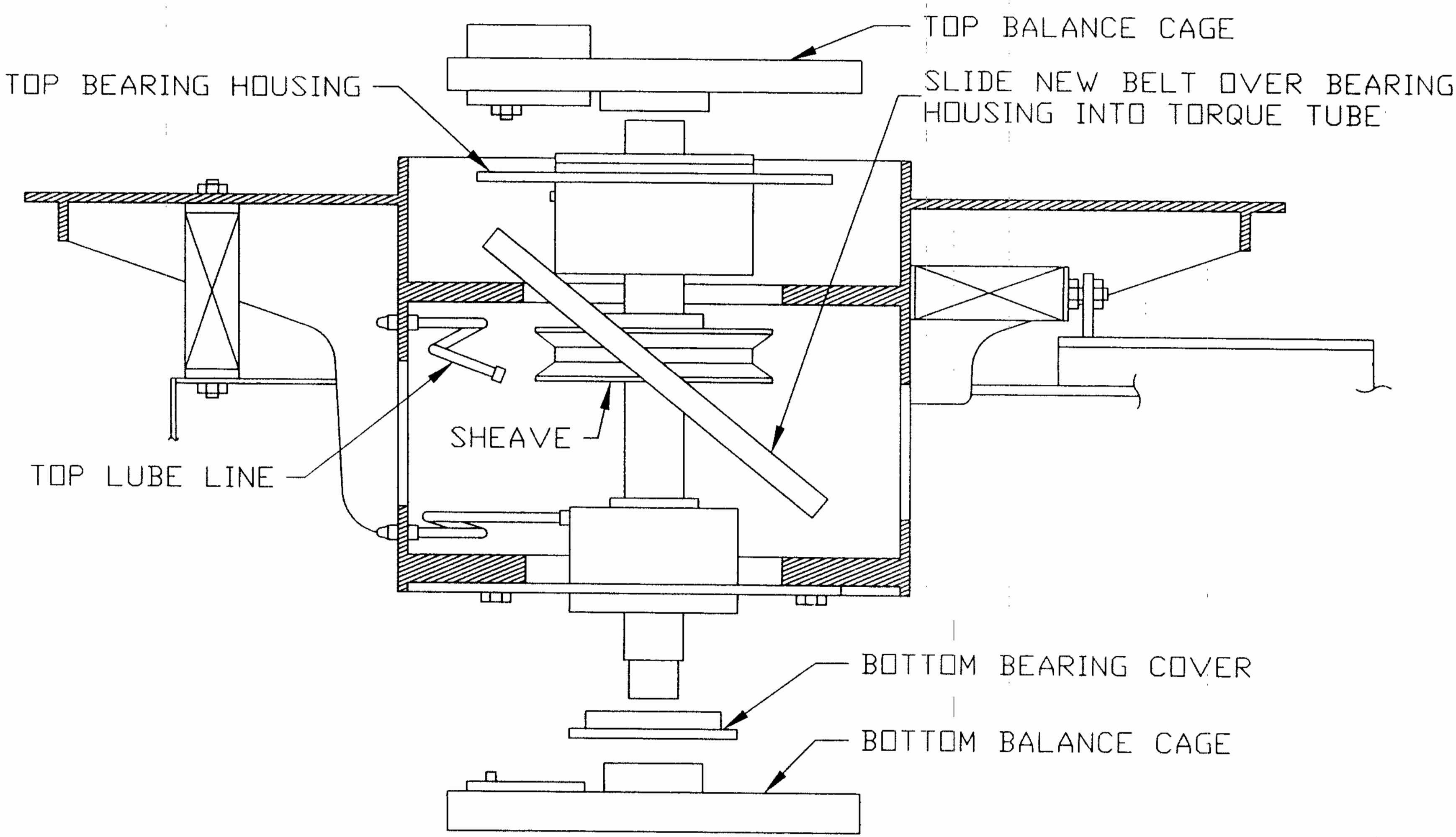
All pulleys are marked, usually on the back of one flange, with the month and year of manufacture. This marking is, for example 11/81. This would mean the pulley was manufactured in Nov. 1981. If for any reason the decal has been removed or obliterated, this date would assist the factory to pinpoint the complete model number of the pulley, which is necessary when ordering parts.

*For

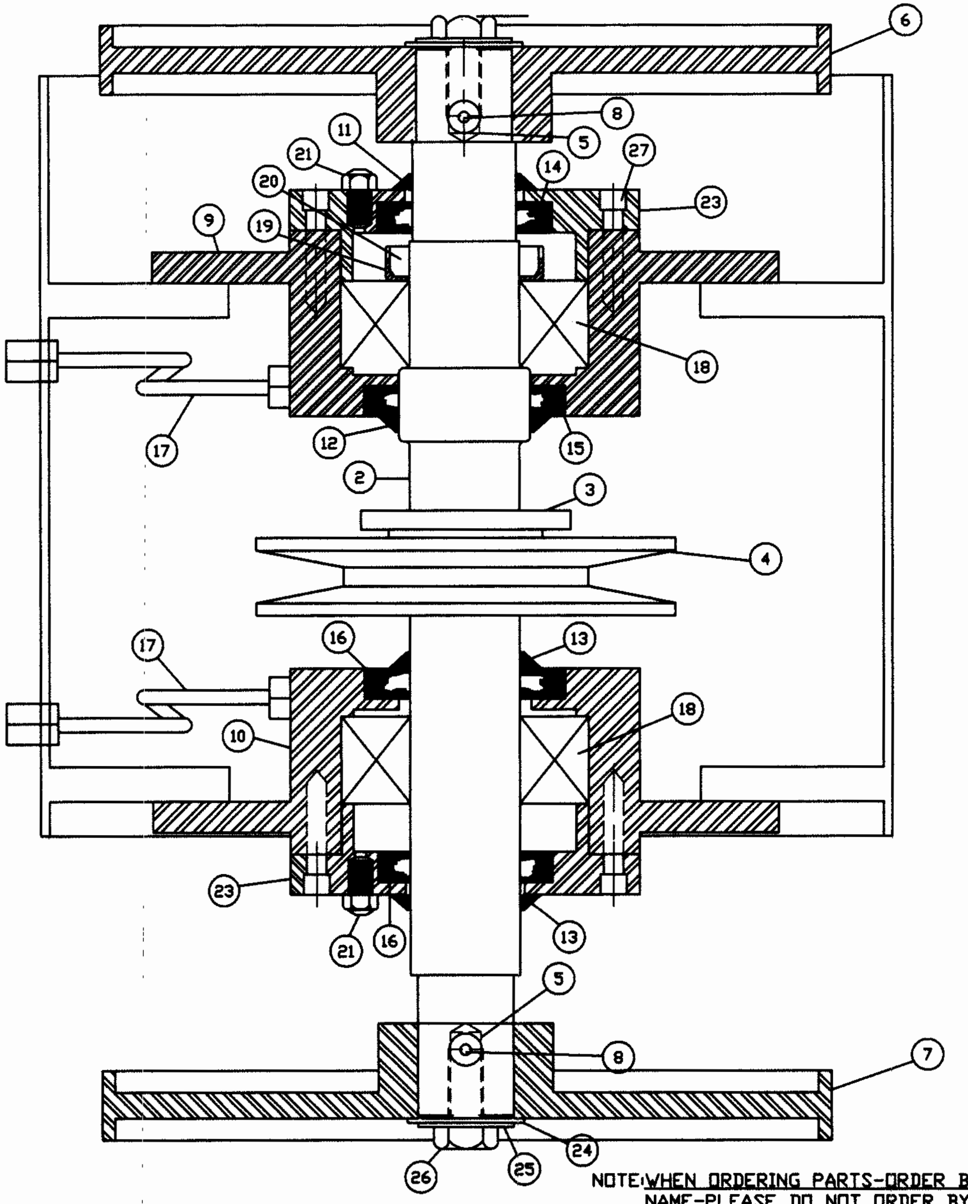
3/8	8811-2.75, 8813, 8821, 8822-2.75
3/8	8823, 8833, 8843, 8853
1/4	8810, 8816, 8827, 8859
3/16	8811-2

ME30 BELT INSTALLATION

1. REMOVE FRAMES - REMOVE TOP AND BOTTOM BALANCE CAGES & BOTTOM BEARING COVER.
2. DISCONNECT TOP LUBE LINE AND REMOVE BOLTS HOLDING TOP BEARING HOUSING.
3. LIFT BEARING AND SHAFT HIGH ENOUGH TO SLIP BELT OVER BEARING HOUSING AND INTO TORQUE TUBE. BE CAREFUL NOT TO LET DIRT ENTER BOTTOM BEARING HOUSING.
4. SLIDE SHAFT ASSY. DOWN (USE CAUTION TO AVOID DAMAGING BEARING SEAL). TOP BEARING MUST BE BOLTED IN THE SAME POSITION FOR PROPER ALIGNMENT OF THE GREASE LINE. TIGHTEN BOLTS. REINSTALL BOTTOM BEARING COVER, THEN BALANCE CAGES.
5. CRANK MOTOR FORWARD AND SPREAD SHEAVES ON PULLEY WITH WOOD OR PLASTIC WEDGE.
6. SLIP BELT INTO PULLEY THEN INTO SHEAVE ON SHAFT AND REMOVE WEDGE.



9/12/96



NOTE: WHEN ORDERING PARTS-ORDER BY PART NO. & NAME-PLEASE DO NOT ORDER BY ITEM NO.

(1) -101 SHAFT ASSEMBLY

ITEM	REQD.	PART NUMBER	MATERIAL
27	12	ME30250201B	SOC. HD. CAP SCREW 1/4"-20 X 1"
26	2	ME3050013125B	HEX HD. CAP SCREW 1/2"-13 X 1 1/4"
25	2	ME30500CLW	CAMLOC LOCK WASHER 1/2"
24	2	ME30500175FW	WASHER 1/2" X 1 3/4" O.D.
23	2	ME3042	COVER
22			
21	2	ME30317400	RELIEF FITTING
20	1	ME30N08	NUT
19	1	ME30W08	WASHER
18	2	ME30308	BEARING 452308M2W502
17	2	ME3080	LUBE LINE
16	2	ME30473229	OIL SEAL
15	1	ME30473238	OIL SEAL
14	1	ME30473228	OIL SEAL
13	2	ME3011495	SLINGER
12	1	ME3015528	SLINGER
11	1	ME3011775	SLINGER
10	1	ME303083	BOTTOM JOURNAL BOX (ASSEMBLY)
9	1	ME303081	TOP JOURNAL BOX (ASSEMBLY)
8	2	ME3037516375SS	SET SCREW 3/8"-16 X 3/8"
7	1	ME30083	BALANCE CAGE (BOTTOM)
6	1	ME30081	BALANCE CAGE (TOP)
5	2	ME30158K	KEY
4	1	ME3014226SH	SHEAVE
3	1	ME30SH1574	BUSHING
2	1	ME3031	SHAFT
1	1	-101 SHAFT ASSEMBLY	

REVISIONS

LTR.	DATE	DESCRIPTION	BY
A	1/19/99	ROTATED BOTTOM BALANCE CAGE	JR
B	11/1/01	REVISED PART NUMBERS	AS

CUSTOMER:

DRAWN BY: RAYNER 1.5 | DATE: 9/9/97

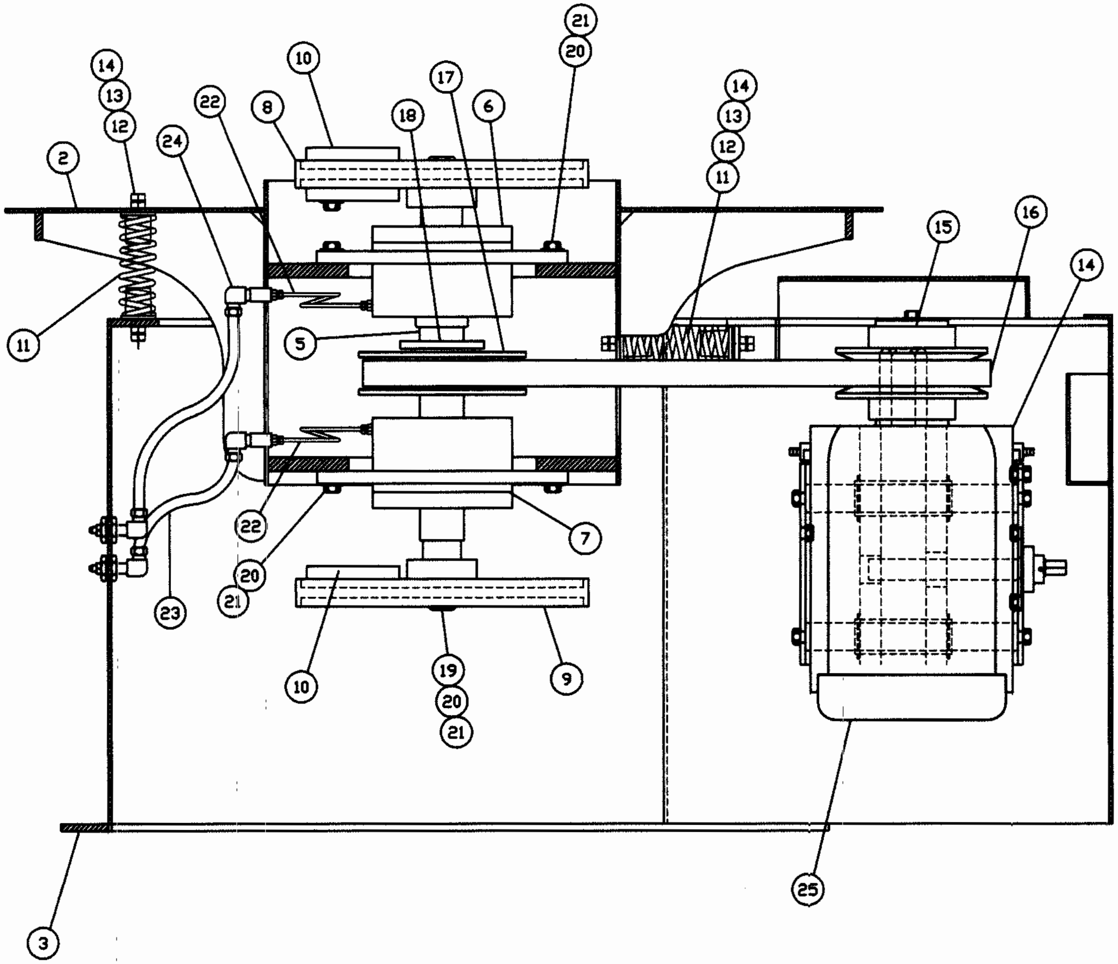
CHECKED BY:

NEXT ASSY.:

MIDWESTERN INDUSTRIES INC. MASSILLON, OHIO 44648-0810 U.S.A.

TITLE: MODEL ME30 SHAFT ASSEMBLY.

DRAWING NO.: MAN00119 | REF.: B



ITEM	REQD.	PART NO.	
25	1	1 HP. TEFC	MOTOR 1725 RPM 56 FRAME
24	1	ME3051553T	TOP FLEXIBLE LUB LINE
23	1	ME3051553B	BOTTOM FLEXIBLE LUBE LINE
22	2	ME3080	LUBE LINE
21	14	ME3050013125B	HEX HD. CAP SCREW 1/2-13 X 1 1/4"
20	14	ME30500CLW	CAM LOCK WASHER 1/2"
19	2	ME30500175FW	WASHER 1/2" X 1 3/4" O.D.
18	1	ME30SH1574	BUSHING
17	1	ME3014226SH	SHEAVE
16	1	ME3033	BELT VARIBLE SPEED 1422V440
15	1	ME308816625	PULLEY 8816-5/8" BORE
14	18	ME30312LW	WASHER 5/16
13	36	ME3031218N	NUT 5/16-18
12	18	ME30M227P	SPRING LUG POLYURETHANE
11	9	ME30328	SPRING
10	4	ME304	WEIGHT
9	1	ME30083	BALANCE CAGE
8	1	ME30081	BALANCE CAGE
7	1	ME303083	BEARING ASSY
6	1	ME303081	BEARING ASSY
5	1	ME3031	SHAFT
4	1	ME30C213105	MOTOR MOUNT ASSY.
3	1	ME30200	BASE ASSY.
2	1	ME30100	TABLE ASSY.
1	1	ME30-101	ME30 SEPARATOR

REVISIONS

LTR.	DATE	DESCRIPTION	BY

CUSTOMER

DRAWN BY: RAYNER
DATE: 1/22/02
CHECKED BY
NEXT ASSY.

MIDWESTERN INDUSTRIES INC. MASSILLON, OHIO 44648-0810 U.S.A.

TITLE: ME30 SEPARATOR

DRAWING NO.: MFE30061

REV.

MIDWESTERN AIR MOTOR

Always operate, inspect and maintain this motor in accordance with American National Standards Institute Safety Code for Portable Air Tools (ANSI B186.1) and any other applicable safety codes and regulations.

FOR TOP PERFORMANCE AND MAXIMUM DURABILITY OF PARTS< OPERATE THIS MOTOR AT 90 PSI AIR PRESSURE WITH ½" AIR SUPPLY HOSE. AIR CONSUMPTION AT MAXIMUM POWER REQUIRES 46CFM.

WARNING

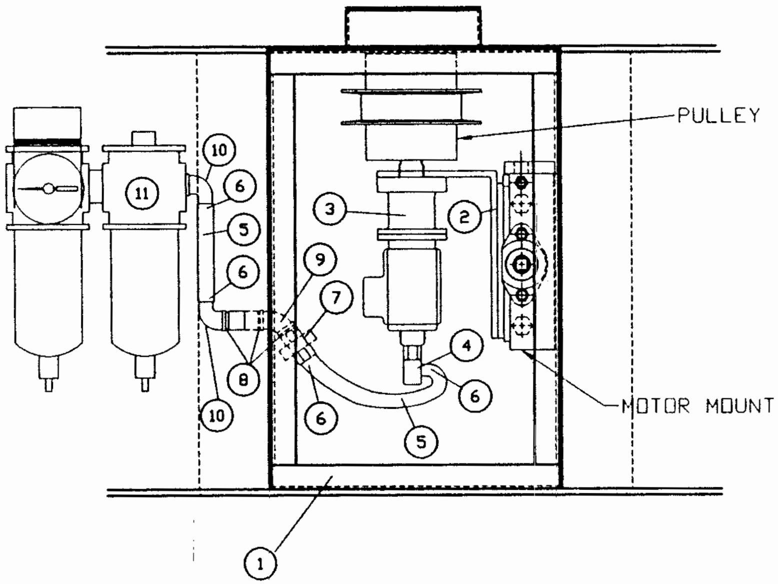
Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this motor, or before performing any maintenance on this motor. Failure to do so could result in injury.

LUBRICATION

Oil: Ingersol-Rand No. 50 Lubricant or a good quality SAE 20 or 20W motor oil.
Grease: Ingersol-Rand No. 28 Lubricant or a good quality No. 2 cup grease.

This unit is equipted wit filter, regulator, and air cleaner. Keep filter clean, and oil reservoir filled with oil decribed above. Adjust the lubrication so there is a slight oil mist in the exhaust.

After each forty hours of operation, or as experience indicates, remove the grease plug (29) and inject 1.5 cc (8 full pumps from an ordinary hand-held grease gun) of the recommended grease into the opening. Do not grease excessively. Too much grease in the gear case (28) will cause heating. Grease leakage from the spindle end is also an indication that an excessive amount of grease has accumulated within the gear case.



ITEM	REQD	PART NO.
11	1	D28-04-FKG0-28 MODULAR FRL
10	2	1/2"-90° STREET ELBOW
9	1	1/2"-45° ELBOW
8	4	1/2" CLOSE NIPPLE
7	1	1/2" UNION
6	4	1/2" BARB TYPE HOSE FITTING W/ PUNCHLOK CLAMPS
5	REQD.	1/2" AIR HOSE REQD. LENGTH
4	1	BRASS 90°
3	1	1,4HP AIR MOTOR
2	1	AIR MOTOR MOUNT ADAPTER
1	1	MFE30030-101 BASE ASSY.

REVISIONS

LTR	DATE	DESCRIPTION	BY

CUSTOMER:

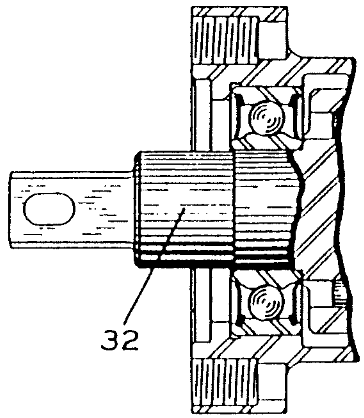
DRAWN BY: 32 RAYNER
DATE: 7/27/98
CHECKED BY:
NEXT ASSY:

MIDWESTERN INDUSTRIES INC.
MASSILLON, OHIO
44648-0810 U.S.A.

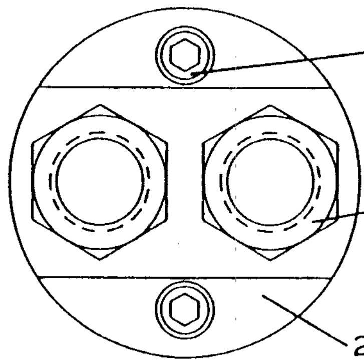
TITLE: AIR UNIT BASE ASSY. ME 30 SEPARATOR

DRAWING NO.: MFE30044

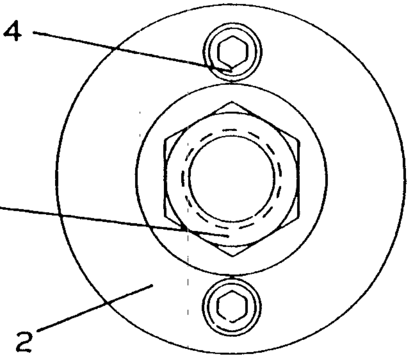
REF.:



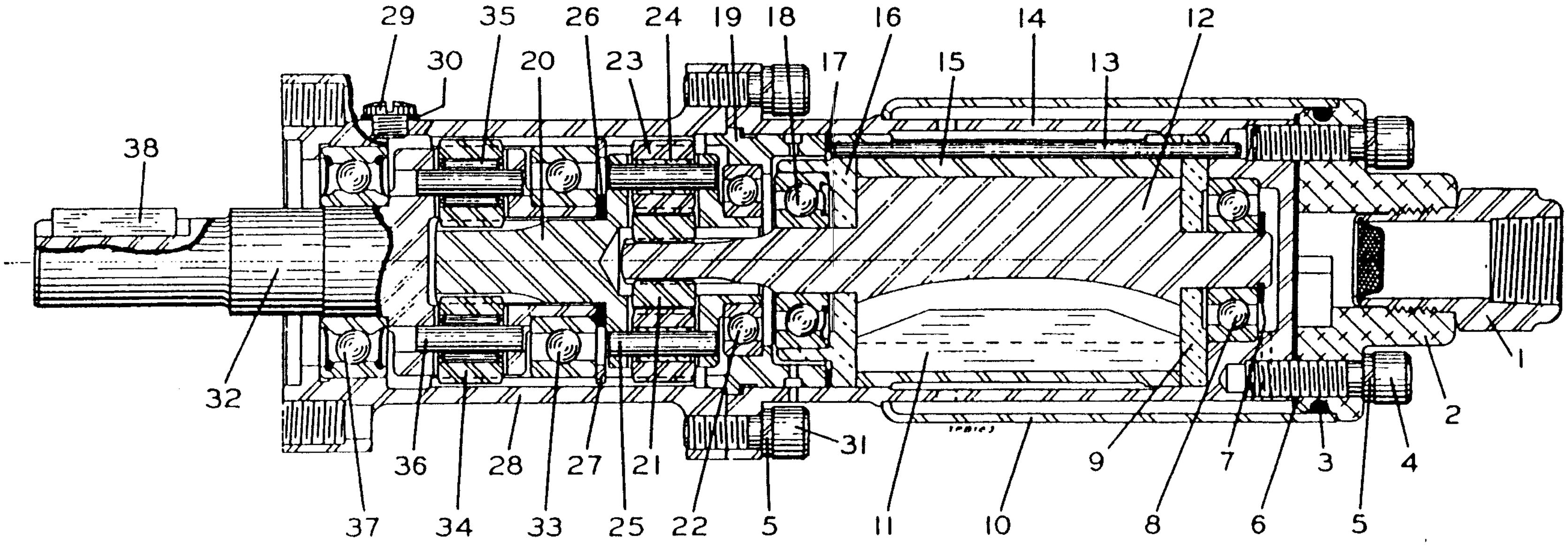
OPTIONAL SPINDLE WITH $\frac{1}{2}$ INCH SQUARE DRIVER



BACK HEAD USED ON SERIES 1841 REVERSIBLE MOTORS



BACK HEAD USED ON SERIES 1801 NON-REVERSIBLE MOTORS



(Dwg. TPB183)

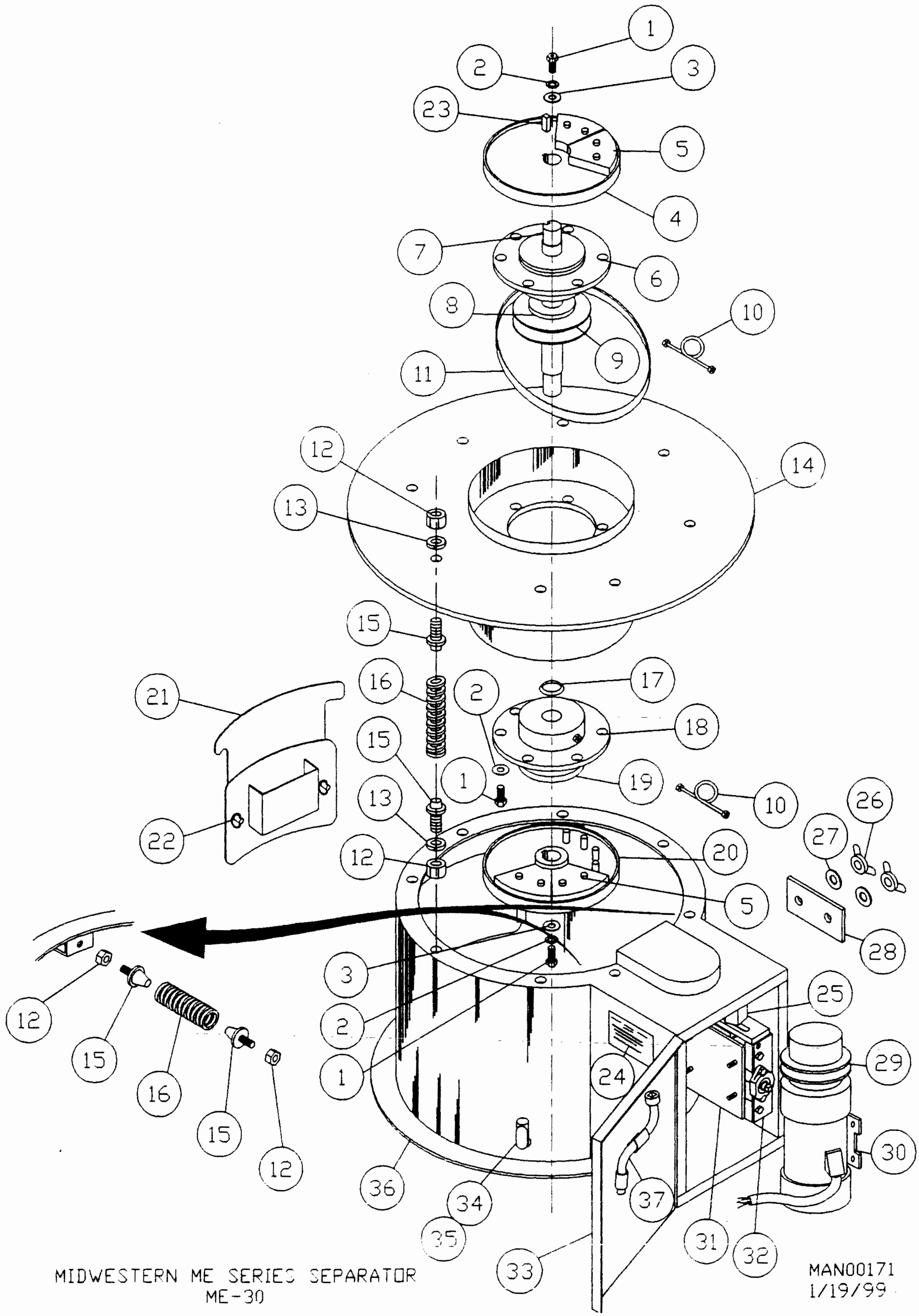
		PART NUMBER FOR ORDERING
1	Air Strainer (1 for Series 1801; 2 for Series 1841)	R18-465A
2	Backhead	
	for Series 1801	R1801-102
	for Series 1841	R1841-102
● 3	Exhaust Deflector Seal	R10V-310
4	Backhead Cap Screw (2)	510-638
5	Lock Washer (4)	8U-58
● 6	Backhead Gasket	
	for Series 1801	R1801-283
	for Series 1841	R1841-283
● 7	Rotor Bearing Retainer	404-118
● 8	Rear Rotor Bearing	R1-24
● 9	Rear End Plate	R1801-12A
★ 10	Exhaust Deflector	
	Standard	R1801-23
	with 3/4" pipe tap Exhaust Port (for piped-away exhaust)	R1801-A123
*	Deflector Front Seal (used with No. R1801-A123 Deflector)	R10V-310
● 11	Vane Packet (set of 5 Vanes)	R1801-42-5
12	Rotor	
	for Model 1801N, 1801P, 1801U, 1801W, 1841N, 1841P, 1841U or 1841W	R1801P-53
	for Model 1801Q or 1841Q	R1801Q-53
13	Cylinder Dowel	R18-98
★ 14	Motor Housing	R1801-40
● 15	Cylinder	
	for Series 1801	R1801-3
	for Series 1841	R1841-3
● 16	Front End Plate	R1801-11
● 17	End Plate Gasket	R1801-739
● 18	Front Rotor Bearing	R1-24A
19	Bearing Cage	R1801-113
	Gear Head Assembly	
	for Model 1801P or 1841P	R1801P-A216
	for Model 1801Q or 1841Q	R1801Q-A216
	for Model 1801U or 1841U	R1801U-A216
	for Model 1801W or 1841W	R1801W-A216
20	Gear Head	
	for Model 1801P or 1841P	R1801P-216
	for Model 1801Q or 1841Q	R1801Q-216
	for Model 1801U or 1841U	R1801U-216
	for Model 1801W or 1841W	R1801W-216
21	Rotor Pinion (for Model 1801P or 1841P)	R1801P-17
22	Gear Head Bearing	4E-510
23	Gear Head Planet Gear (2)	
	for Model 1801P or 1841P (14 teeth)	R1801P-10
	for Model 1801Q or 1841Q (19 teeth)	R1801Q-10
	for Model 1801U, 1841U, 1801W or 1841W (21 teeth)	R1801U-10

		PART NUMBER FOR ORDERING
24	Gear Head Planet Gear Bearing (2) (for Model 1801Q, 1801U, 1801W, 1841Q, 1841U or 1841W)	R1AL-654
24	Gear Head Planet Gear Bushing (2) (for Model 1801P or 1841P)	R1AH-500
25	Gear Head Planet Gear Shaft (2)	R1A-191
26	Gear Head Spacer (all except N ratio)	R1AP-80
27	Spindle Bearing Retainer (all except N ratio)	R1AP-118
28	Gear Case	
	for 1801N and 1841N	R1841N61-37
	for all other models	R1801P-37
29	Grease Plug	R00A-95
30	Grease Plug Washer	R3-92A
31	Gear Case Cap Screw (2)	G57T-634
	Spindle Assembly	
	for 1801N and 1841N (5/8" round shaft)	R1801N-A108
	for 1801P, 1801Q, 1801U, 1841P, 1841Q or 1841U	
	with 5/8" round shaft	R1801P-A108
	with 1/2" square drive	R1801P-A8
	for 1801W or 1841W	
	with 5/8" round shaft	R1801W-A108
	with 5/8" square drive	R1801W-A8
32	Spindle	
	for 1801N and 1841N (5/8" round shaft)	R1801N-108
	for 1801P, 1801Q, 1801U, 1841P, 1841Q or 1841U	
	with 5/8" round shaft	R1801P-108
	with 1/2" square drive	R1801P-8
	for 1801W or 1841W	
	with 5/8" round shaft	R1801W-108
	with 5/8" square drive	R1801W-8
33	Spindle Rear Bearing	
	for 1801N and 1841N	4E-510
	for all other models	R1AP-97
34	Spindle Planet Gear (3)	
	for 1801N and 1841N (21 teeth)	R1801U-10
	for 1801P, 1801Q, 1801U, 1841P, 1841Q or 1841U (17 teeth)	R1801P-9
	for 1801W or 1841W (19 teeth)	R1801W-9
35	Spindle Planet Gear Bearing (3)	R1AL-654
36	Spindle Planet Gear Shaft (3)	F02-15
37	Spindle Front Bearing	4UA9-593
38	Spindle Key	555-410

* Not illustrated.

● To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

★ IMPORTANT: The complete size symbol stamped on these parts must be stated when ordering a replacement Motor Housing or Exhaust Deflector



MIDWESTERN ME SERIES SEPARATOR
ME-30

MAN00171
1/19/99

MODEL ME30 SEPARATOR PARTS SHEET

REV. 1/19/99
8/14/97

ITEM	REQD.	PART NUMBER	DESCRIPTION
01	02	50013125B	HEX HEAD CAP SCREW, 1/2"-13 X 1 1/4"
02	02	500CLW	CAMLOC WASHER, 1/2"
03	02	500175FW	WASHER, 1/2" X 1 3/4" O.D.
04	01	ME30081	BALANCE CAGE, TOP
	05	M3293	PIN, TOP BALANCE CAGE
	05	50013N	NUT, BALANCE CAGE PIN, 1/2"-13
	05	500LW	LOCK WASHER, BALANCE CAGE PIN
	REQD.	ME3041	WEIGHT, SINGLE HOLE
05	REQD.	ME304	WEIGHT, DOUBLE HOLE
06	01	ME303081	BEARING ASSEMBLY, TOP
	01	83ME30C1041	BEARING HOUSING ONLY, TOP
	01	ME3042	COVER (FOR TOP BEARING HOUSING)
	12	250201B	SOCKET HEAD BOLT, 1/4"-20 X 1" (FOR TOP
			AND BOTTOM BEARING HOUSING COVERS)
	02	452308M2W502	BEARING ONLY, TOP AND BOTTOM
	01	473238	OIL SEAL (FOR TOP BEARING HOUSING)
	01	473228	OIL SEAL (FOR TOP BEARING HOUSING COVER)
	01	15528DS/4727DS	SLINGER (FOR TOP BEARING HOUSING)
		/11775DS	
07	01	MFE30003101	SHAFT
08	01	SH1574	BUSHING, TAPER LOCK
09	01	14226SH	SHEAVE
10	02	ME3080	LUBE LINE
11	01	ME3033	BELT (STANDARD NO. 1422V440)
12	20	31218N	HEX NUT, 15/16"-18 Z/P (FOR SPRING LUG)
13	20	312LM	LOCK WASHER (FOR SPRING LUG) 5/16" STANDARD

MODEL ME30 SEPARATOR PARTS SHEET

REV. 1/19/99

9/26/97

ITEM	REQD.	PART NUMBER	DESCRIPTION
14	01	ME30100	TABLE
15	20	M227P	SPRING LUG, POLYURETHANE
16	10	M328	SPRING, .192" W.D., 9 COIL, Z/P
17	02	11495DS	SLINGER, BOTTOM BEARING HOUSING
18	01	ME303083	BEARING ASSEMBLY, BOTTOM
19	01	ME3042	COVER, BOTTOM BEARING HOUSING
	02	473229	OIL SEAL, BOTTOM BEARING HOUSING COVER
	01	83ME30C1043	BEARING HOUSING ONLY, BOTTOM
20	01	ME30083	BALANCE CAGE, BOTTOM
	08	M3291	PIN, BOTTOM BALANCE CAGE
21	01	83ME30C10213	DOOR, REAR ACCESS
22	02	571011250	LATCH
23	02	ME30158K	KEY, TOP OR BOTTOM BALANCE CAGE,
			3/8" X 3/8" X 1 5/8"
	02	37516375S	3/8"-16 X 3/8" SET SCREW
24	01		I.D. TAG
25	01	50013125B	MOTOR LOCK
26	02	37516WN	WING NUT, 3/8"-16 Z/P
27	02	375FW	FLAT WASHER, 3/8" SAE Z/P
28	01	83ME30C10231	COVER, MOTOR LOCK ACCESS
29	01	8816625	PULLEY, VARIABLE SPEED, 5/8" BORE
30	01	ME30115V	1 HP, TEFC, 1725 RPM, 1 PHASE, 56 FRAME,
			60 CYCLE, 115/230 VOLT MOTOR

MODEL ME30 SEPARATOR PARTS SHEET

ITEM	REQD.	PART NUMBER	DESCRIPTION 9/26/97
30	01	ME30115XP	1 HP, TEFC, 1725 RPM, 1 PHASE, 56 FRAME, 60
			CYCLE, 115/230 VOLT, EXPLOSION-PROOF, CLASS I,
			GROUP D, CLASS II, GROUPS E, F, & G MOTOR
	01	ME30230V	1 HP, TEFC, 1725 RPM, 3 PHASE, 56 FRAME,
			60 CYCLE, 230/460 VOLT MOTOR
	01	ME30230XP	1 HP, TEFC, 1725 RPM, 1 PHASE, 56 FRAME, 60
			CYCLE, 230/460 VOLT, EXPLOSION-PROOF, CLASS I,
			GROUP D, CLASS II, GROUPS E, F, & G MOTOR
31	01	89M24C213105	MOTOR MOUNT COMPLETE ASSEMBLY
	01	89M24C213103	BASE (CARRIAGE BASE)
	01	89M24C213101	SUB BASE (CARRIAGE)
32	01	89M24C21315	SCREW (R.P.M. ADJUSTMENT)
	01	FHSLF201-8	FLANGE UNIT
33	01	83ME30C10211	DOOR WITH HINGE
34	01	LB19	CONDULET BOX (INTERCHANGES WITH LB17)
35	01	LB190	COVER WITH GASKET (FOR LB19 CONDULET BOX)
36	01	ME30200	BASE ASSEMBLY WITH DOORS
37	01	89M24C21317	CRANK
	01	37516300AT	MINIMUM RPM LOCK (3/8"-16 X 3.00 ALL
			THREAD AND NUT)
	01	375162125AT	MAXIMUM RPM LOCK (3/8"-16 X 2.125 ALL
			THREAD AND NUT)
	04	37516100B	BOLT (FOR SLIDE SHAFT)
	01	86ME30C136	ROLL-AWAY PLATFORM WITH FOUR 6" SWIVEL
			LOCKING CASTERS
	04	375SW	3/8" STAR WASHER (FOR SLIDE SHAFT)
	04	375FW	3/8" FLAT WASHER (FOR SLIDE SHAFT)
	02	31218100B	5/16"-18 X 1" BOLT (FOR FLANGE UNIT)
	02	31218N	5/16"-18 NUT (FOR FLANGE UNIT)
	01	500SW	1/2" STAR WASHER (FOR MOTOR LOCK)
	01	500FW	1/2" FLAT WASHER (FOR MOTOR LOCK)
	02	312SW	5/16" STAR WASHER (FOR FLANGE UNIT)

ME SERIES – RECOMMENDED SPARE PARTS

For continuous operation of your Midwestern Separator we recommend the following spare parts for each Separator:

1. One screen of every mesh being used

2. One variable speed pulley

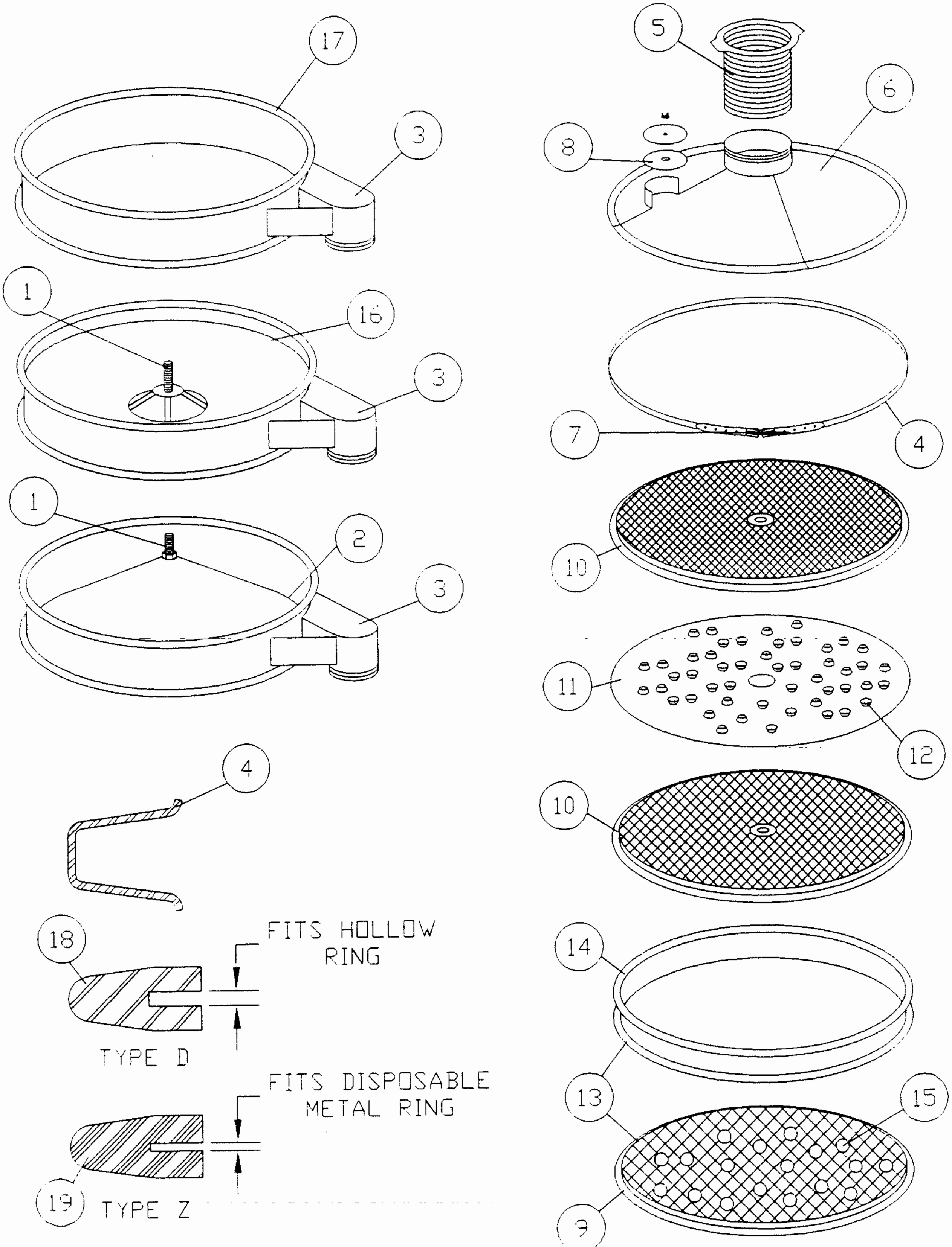
3. One drive belt

4. One V–clamp ring assembly

5. One reversible center locking device (if supplied with original equipment)

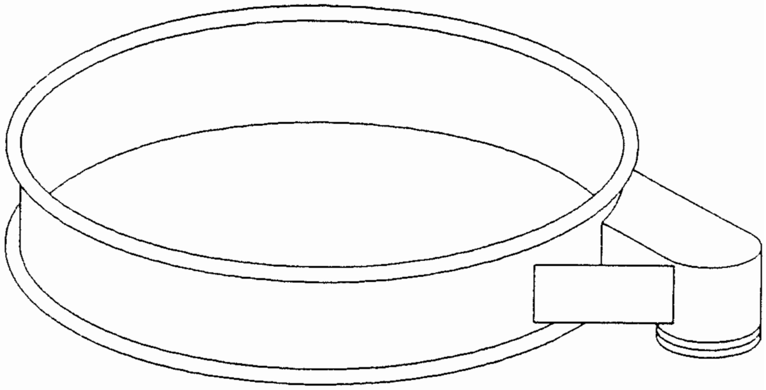
6. One set extra springs (8 required on 24", 30" and 36" separators; 12 required on 48" and 60" separators; 16 required on 72" separators)

7. Four stainless steel clamp ring bolts



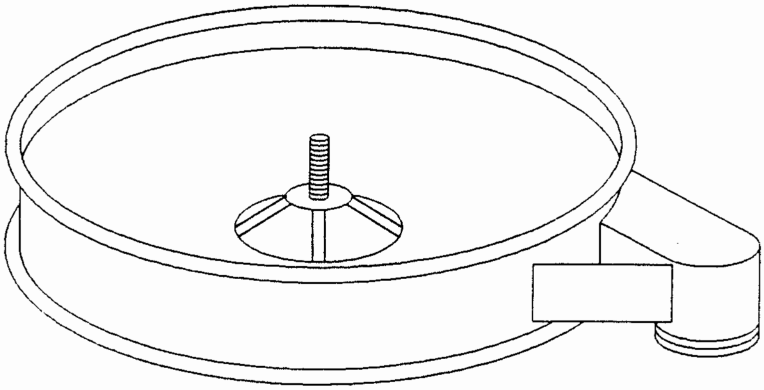
MAN00044
5/13/97

17



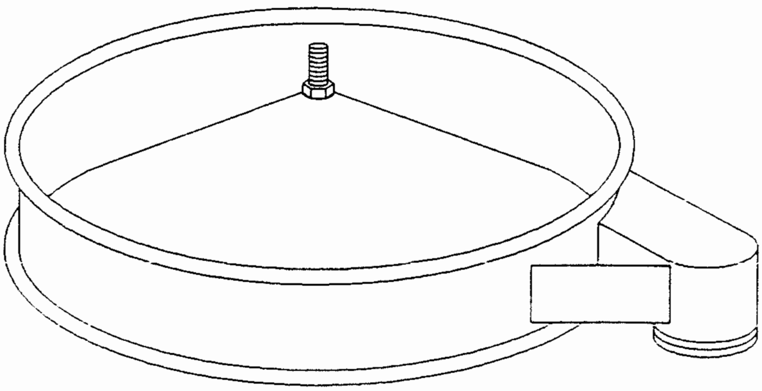
UPPER FRAME

16

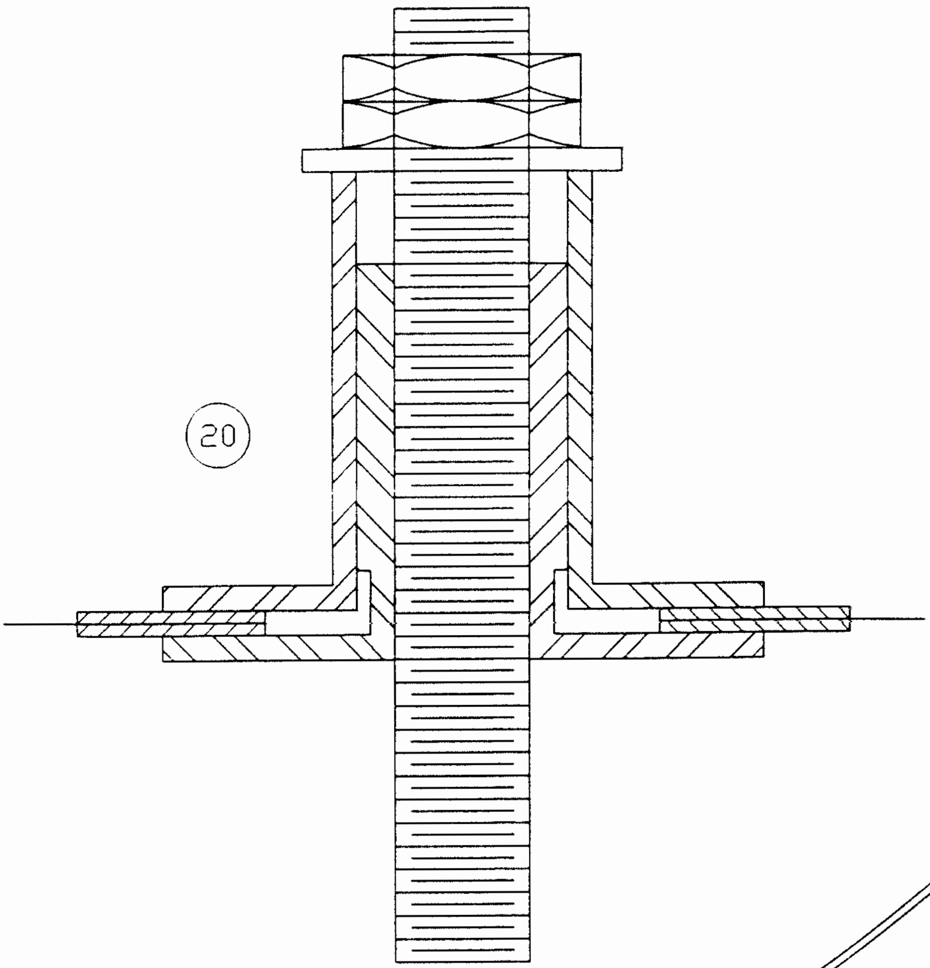


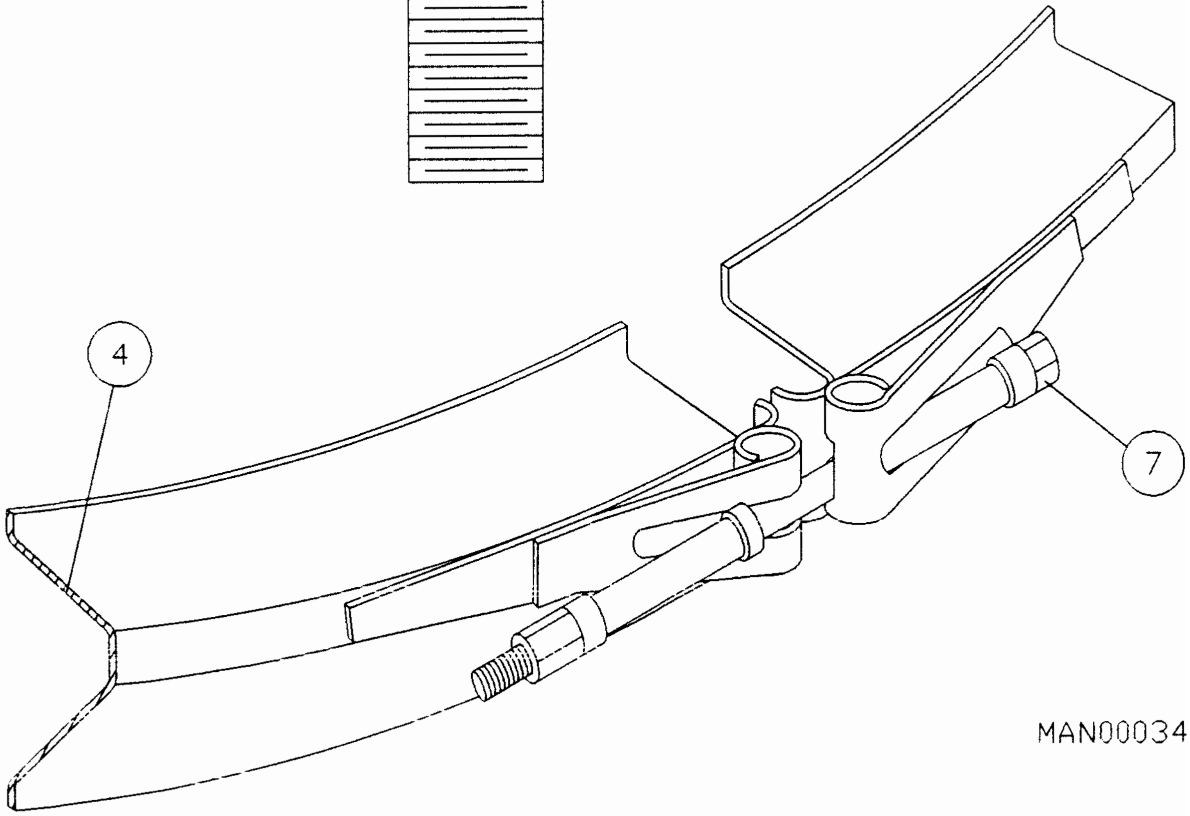
MIDDLE FRAME

2



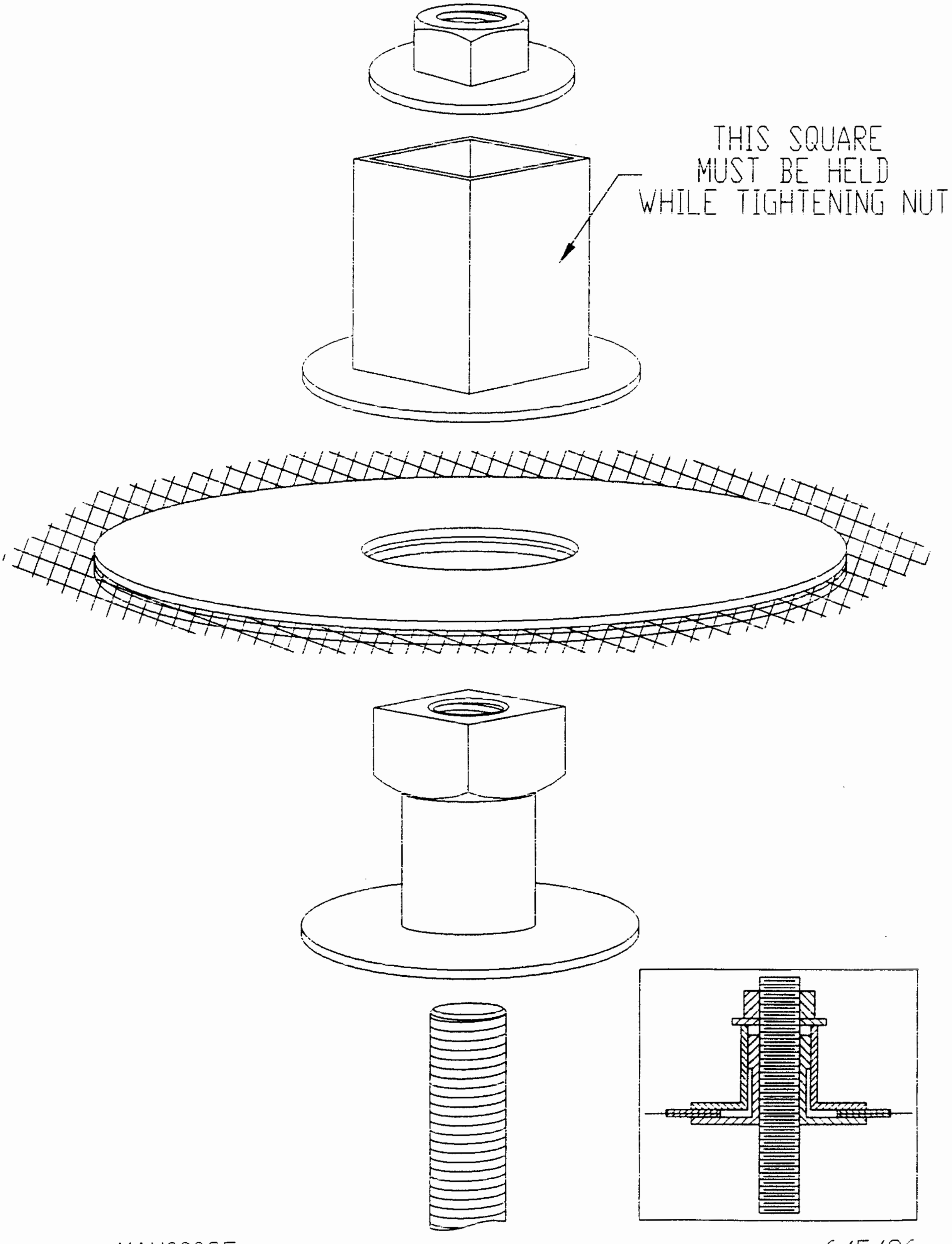
LOWER FRAME





MAN00034

REVERSIBLE CENTER LOCKING ASSEMBLY



MAN00035

6/5/96

MODEL ME/MR 30 SEPARATOR ACCESSORIES PARTS LISTS

ITEM	PART NUMBER	DESCRIPTION 12/8/03
01	M30X	3/8"-16 CENTER STUD
02		LOWER FRAME (DOUBLE FLANGE OR BOLT MOUNT)
		WITH WELDED DOME AND ONE DISCHARGE SPOUT
		(SPECIFY FRAME HIGHT AND DOWNSPOUT SIZE)
03		STANDARD DOWNSPOUT (SPECIFY SIZE)
04	M30S70	"V" CLAMP RING ASSEMBLY WITH DOUBLE
		TRUNNION
05		DOWNSPOUT CONNECTOR (SPECIFY SIZE AND
		MATERIAL)
06	M30SLA	METAL COVER ASSEMBLY INCLUDING COVER WITH
		FEED INLET (SPECIFY DIAMETER OF INLET),
		FILLER RING, WHITE "V" GASKET, "V"
		CLAMP RING WITH DOUBLE TRUNNION AND ONE
		INSPECTION PORT
07	MS70B3	3/8"-16 X 8" LONG STAINLESS STEEL HEX HEAD
		CLAMP RING BOLT WITH COUPLER NUT
08		INSPECTION PORT ASSEMBLY
09	M30DMR	BALL TRAY CARRIER SCREEN (STANDARD 4 MG-.0475
		WIRE DIAMETER)
10		SIZING SCREEN (SPECIFY MESH)
11		CONICAL KLEENER SUPPORT TRAY ONLY
		(SPECIFY CLIP-IN OR PERFORATED PLATE)
12	M30M50017	7/8" HIGH CONICAL KLEENERS
13	M30SBTA	BALL TRAY ASSEMBLY INCLUDING CARRIER SCREEN
		MOUNTED ON 30" DISPOSABLE METAL RING WITH
		WHITE "V" GASKET, "V" CLAMP RING
		WITH DOUBLE TRUNNION, (40) 1-3/8" DIAMETER
		RUBBER BALLS AND 2" HIGH BLACK SPACING FRAME

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ITEM	PART NUMBER	DESCRIPTION
14	M30SBUF2	BLANK FRAME, 2" HIGH (FOR BALL TRAY)
15	M30M91139	1-3/8" DIAMETER RUBBER BALLS (STANDARD
		WHITE GUM RUBBER BALLS UNLESS OTHERWISE
		SPECIFIED)
16		MIDDLE DISTRIBUTING FRAME (SPECIFY FRAME
		HIGHT AND DOWNSPOUT SIZE)
17		UPPER FRAME WITH ONE DISCHARGE SPOUT
		(SPECIFY FRAME HEIGHT AND DOWNSPOUT SIZE)
18	M30NVHR	"V" GASKET, WHITE, TYPE "D"
		(FOR USE WITH HOLLOW RING)
19	M30NVZ	"V" GASKET, WHITE, TYPE "Z" (FOR
		USE WITH DISPOSABLE METAL RING OR ANGLE
		FILLER RING)
20	M30M4055	STANDARD REVERSIBLE CENTER LOCKING DIVICE